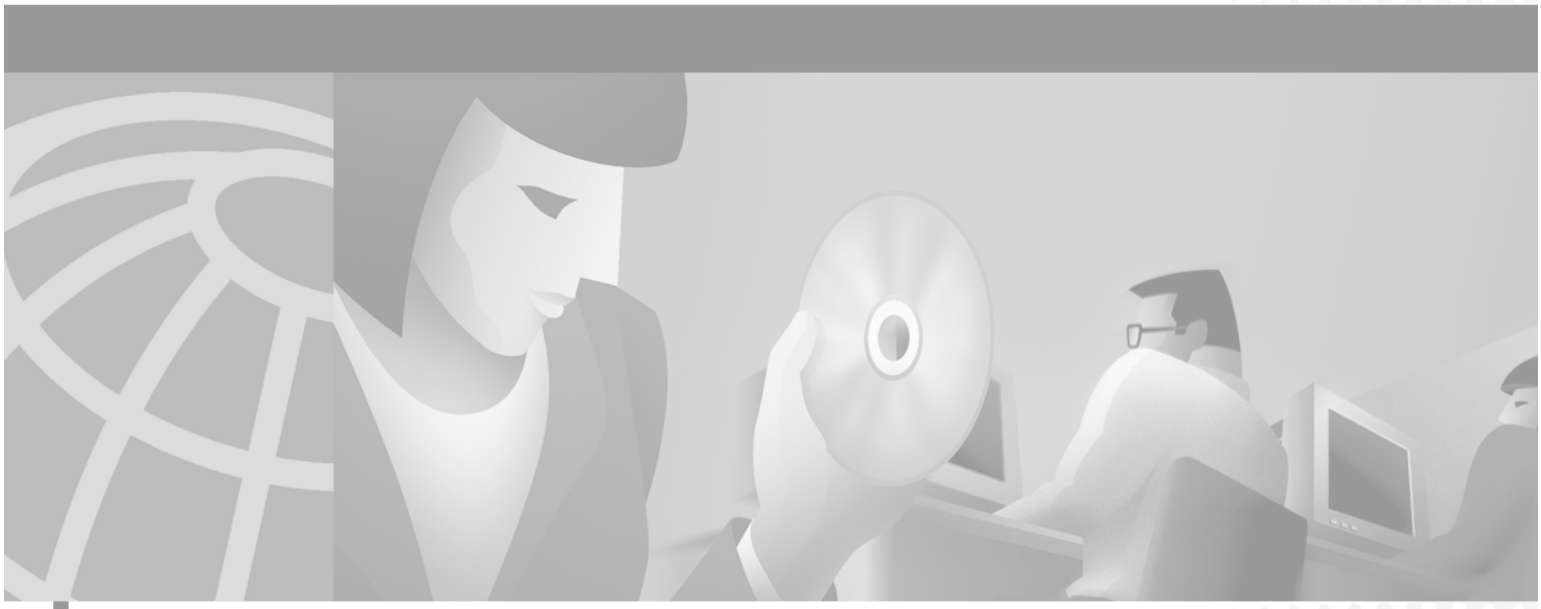

Cisco VISM Installation and Configuration Guide

Release 3.0
June 2004

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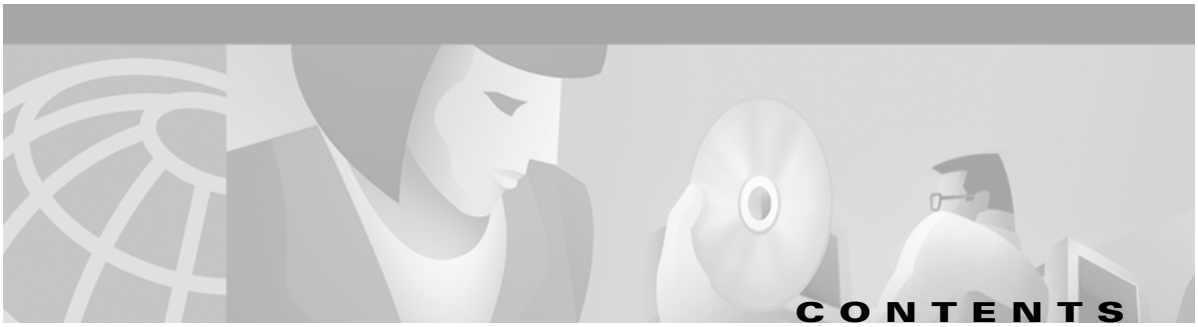

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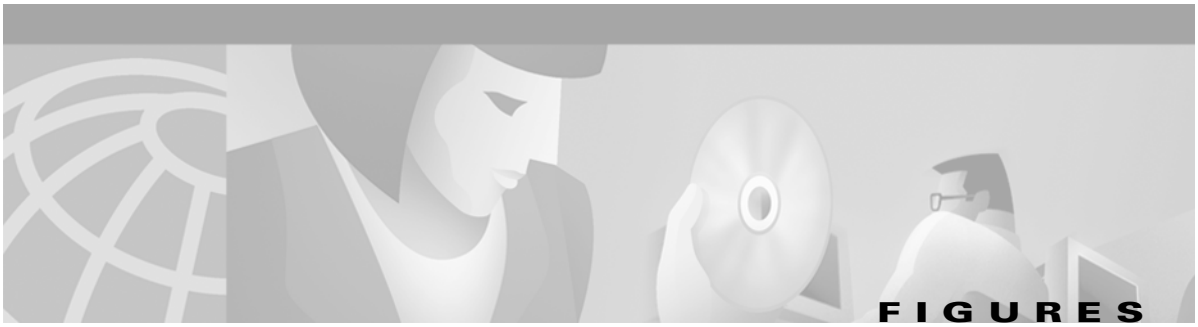

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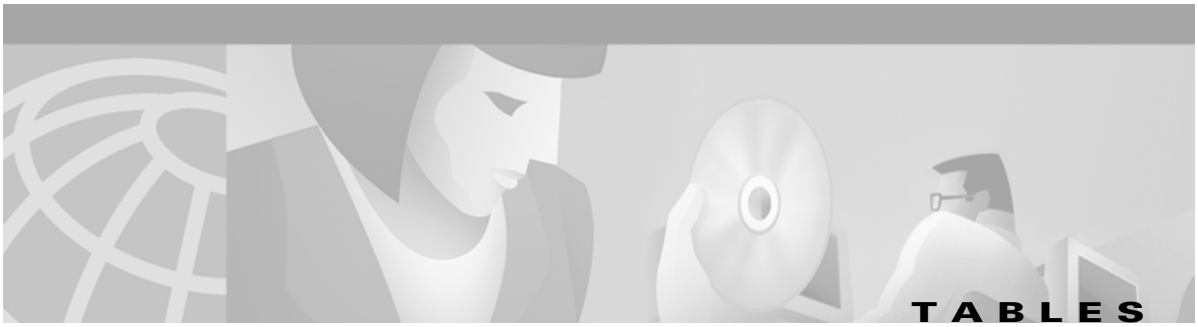

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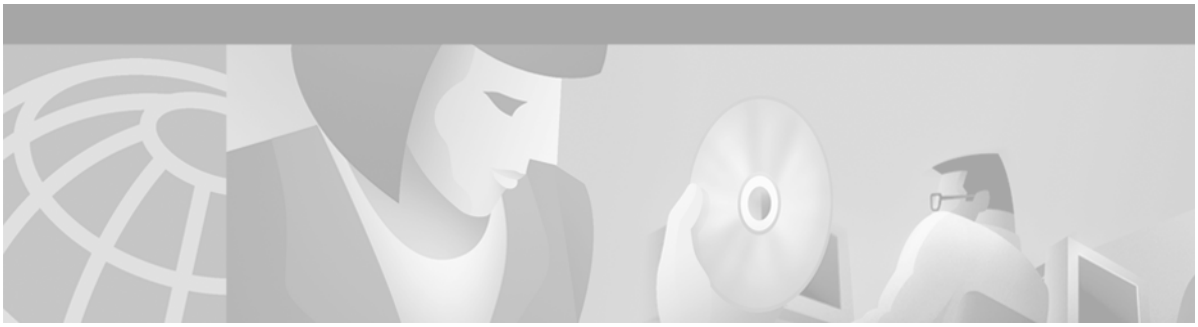

Preface

This preface describes the objectives, audience, organization, and conventions of the *Cisco VISM Installation and Configuration Guide.*

Objectives

This document describes the features, functions, installation, operation, and command line interface of Cisco Voice Interworking Service Module (VISM) Release 3.0.

Audience

This document is intended for the following personnel:

- Technicians responsible for installing VISM cards on the Cisco MGX 8230, MGX 8250, and MGX 8850 shelf.
- Network administrators responsible for configuring the Cisco MGX 8850 shelf.

Cisco recommends that installers be familiar with electronic circuitry and wiring practices and have experience as an electronic or electromechanical technician. Installers and network administrators should also be familiar with Cisco switches and routers, T1 and E1 voice lines, and Cisco wide area networks. Cisco also recommends that you have a system administrator present who is familiar with your network and UNIX servers during the initial installation of a Cisco MGX 8000 Series platform.

Document Organization

This document contains the following chapters:

- Chapter 1, “Overview of the VISM and VISM-PR Cards,” provides a general introduction to VISM and describes the hardware and software modules, and installation procedures.
- Chapter 2, “Telephony Applications Using VISM,” describes VISM applications for a variety of voice networking situations.
- Chapter 3, “VISM Functional Description,” describes VISM’s functional operation.
- Chapter 4, “Configuring VISM Features,” describes the initial mandatory configuration procedures for using VISM cards in each of the operating modes.

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- Chapter 5, "CLI Commands," describes the syntax and semantics of each VISM command line interface command.
- Chapter 6, "Troubleshooting Tips," describes VISM troubleshooting tools and techniques.
- Appendix A, "VISM and VISM-PR Card Clocking Options," describes clocking configuration for both the VISM card and MGX 8000 Series platform PXM cards.
- Appendix B, "VISM and VISM-PR—3.0 Specifications," describes the specifications of VISM Release 3.0.

Related Documentation

The following sections describe documentation you may need to reference as you use the VISM product.

Cisco MGX 8850 (PXM45) Multiservice Switch Release 3

The documentation for the installation and operation of the MGX 8850 Multiservice Switch for Release 3 is listed in Table 1.

Table 1 Cisco MGX 8850 (PXM45) Multiservice Switch Release 3 Documentation

Title	Description
Cisco MGX 8850 Hardware Installation Guide, Release 3 (PXM45/B and PXM1E)	Describes how to install the MGX 8850 multiservice switch. This guide explains what the switch does and covers site preparation, grounding, safety, card installation, and cabling. The MGX 8850 switch uses either a PXM45 or a PXM1E controller card and provides support for both broadband and narrow band service modules.
Cisco MGX 8850, MGX 8950, and MGX 8830 Command Reference (PXM45/B and PXM1E), Release 3	Describes how to use the PXM and AXSM commands that are available for the MGX 8850, MGX 8950, and MGX 8830 switches.
Cisco Frame Relay Software Configuration Guide and Command Reference for the MGX 8850 FRSM12 Card, Release 3	Describes how to use the high-speed Frame Relay (FRSM12) commands that are available for the MGX 8850 switch.
Cisco MGX 8850 (PXM45) and MGX 8950 Software Configuration Guide, Release 3	Describes how to configure MGX 8850 and MGX 8950 switches with PXM45 controller cards to operate as ATM edge or core switches. This guide also provides some operation and maintenance procedures.
Cisco MGX and SES PNNI Network Planning Guide for MGX Release 3 and SES Release 3	Provides guidelines for planning a PNNI network that uses the MGX 8850 and the MGX 8950 switches and the BPX 8600 switches. When connected to a PNNI network, each BPX 8600 series switch requires a SES for PNNI route processing.
Cisco MGX Route Processor Module (RPM-XF) Installation and Configuration Guide, Release 3	Describes how to install and configure the MGX Route Processor Module (RPM-XF) in the MGX 8850 Release 3 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic Cisco IOS configuration information.

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Table 1 Cisco MGX 8850 (PXM45) Multiservice Switch Release 3 Documentation (continued)

Title	Description
Cisco MGX Route Processor Module (RPM-PR) Installation and Configuration Guide, Release 2.1	Describes how to install and configure the MGX Route Processor Module (RPM-PR) in the MGX 8850 Release 2.1 and later switches. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic Cisco IOS configuration information.
Release Notes for Cisco MGX Route Processor Module (RPM/B and RPM-PR) for Release 1.2.10 and Release 3	Provides the latest feature, upgrade, and compatibility information, as well as known and resolved anomalies for RPM-PR.

MGX 8850 (PXM1) Multiservice Switch Release 1.2.10

The documentation for the installation and operation of the MGX 8850 (PXM1) Multiservice Switch is listed in Table 2.

Table 2 MGX 8850 (PXM1) Multiservice Switch Release 1.2.10 Documentation

Title	Description
Cisco MGX 8850 Multiservice Switch Installation and Configuration, Release 1.1.3	Provides installation instructions for the MGX 8850 multiservice switch.
Cisco MGX 8800 Series Switch Command Reference, Release 1.1.3	Provides detailed information on the general command line for the MGX 8850 switch.
Cisco MGX 8800 Series Switch System Error Messages, Release 1.1.3	Provides error message descriptions and recovery procedures.
Cisco MGX 8850 Multiservice Switch Overview, Release 1.1.3	Provides a technical description of the system components and functionality of the MGX 8850 multiservice switch from a technical perspective.
Cisco MGX Route Processor Module Installation and Configuration Guide, Release 1.1	Describes how to install and configure the MGX Route Processor Module (RPM/B and RPM-PR) in the MGX 8850, MGX 8250, and MGX 8230 Release 1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic Cisco IOS configuration information.
Release Notes for Cisco MGX 8230, MGX 8250, and MGX 8850 (Release 1), Software Version 1.2.10 (PXM1)	Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.
Release Notes for Cisco MGX Route Processor Module (RPM/B and RPM-PR) for Release 1.2.10 and Release 3	Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.

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MGX 8250 Edge Concentrator Release 1.2.10

The documentation for the installation and operation of the MGX 8250 Edge Concentrator is listed in Table 3.

Table 3 MGX 8250 Edge Concentrator Release 1.2.10 Documentation

Title	Description
Cisco MGX 8250 Edge Concentrator Installation and Configuration, Release 1.1.3	Provides installation instructions for the MGX 8250 Edge Concentrator.
Cisco MGX 8250 Multiservice Gateway Command Reference, Release 1.1.3	Provides detailed information on the general command line interface commands.
Cisco MGX 8250 Multiservice Gateway Error Messages, Release 1.1.3	Provides error message descriptions and recovery procedures.
Cisco MGX 8250 Edge Concentrator Overview, Release 1.1.3	Describes the system components and functionality of the MGX 8250 Edge Concentrator from a technical perspective.
Cisco MGX Route Processor Module Installation and Configuration Guide, Release 1.1	Describes how to install and configure the MGX Route Processor Module (RPM/B and RPM-PR) in the MGX 8850, MGX 8250, and MGX 8230 Release 1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic Cisco IOS configuration information.
Release Notes for Cisco MGX 8230, MGX 8250, and MGX 8850 (Release 1), Software Version 1.2.10 (PXM1)	Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.
Release Notes for Cisco MGX Route Processor Module (RPM/B and RPM-PR) for Release 1.2.10 and Release 3	Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.

MGX 8230 Edge Concentrator Release 1.2.10

The documentation for the installation and operation of the MGX 8230 Edge Concentrator is listed in Table 4.

Table 4 MGX 8230 Edge Concentrator Documentation

Title	Description
Cisco MGX 8230 Edge Concentrator Installation and Configuration, Release 1.1.3	Provides installation instructions for the MGX 8230 Edge Concentrator.
Cisco MGX 8230 Multiservice Gateway Command Reference, Release 1.1.3	Provides detailed information on the general command line interface commands.
Cisco MGX 8230 Multiservice Gateway Error Messages, Release 1.1.3	Provides error message descriptions and recovery procedures.
Cisco MGX 8230 Edge Concentrator Overview, Release 1.1.3	Provides a technical description of the system components and functionality of the MGX 8250 Edge Concentrator from a technical perspective.

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Table 4 MGX 8230 Edge Concentrator Documentation (continued)

Title	Description
Cisco MGX Route Processor Module Installation and Configuration Guide, Release 1.1	Describes how to install and configure the MGX Route Processor Module (RPM/B and RPM-PR) in the MGX 8850, MGX 8250, and MGX 8230 Release 1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic Cisco IOS configuration information.
Release Notes for Cisco MGX 8230, MGX 8250, and MGX 8850 (Release 1), Software Version 1.2.10 (PXM1)	Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.
Release Notes for Cisco MGX Route Processor Module (RPM/B and RPM-PR) for Release 1.2.10 and Release 3	Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.

The documentation listed in Table 5 contain additional information related to the operation of the Cisco VISM product.

Table 5 Cisco VISM Related Documentation

Document	Description
Cisco MGX 8850 Multiservice Switch Installation and Configuration, Release 1.1.31	Cisco MGX 8850 shelf installation procedures—refer to the sections describing the installation and configuration of the PXM1 card.
Cisco MGX 8800 Series Switch Command Reference, Release 1.1.31	Cisco MGX 8800 shelf command line interface commands—refer to the commands that apply to the PXM1 card.
Cisco MGX 8250 Edge Concentrator Installation and Configuration, Release 1.1.31	Cisco MGX 8250 shelf installation procedures—refer to the sections describing the installation and configuration of the PXM1 card.
Cites MGX 8250 Multiservice Gateway Command Reference, Release 1.1.31	Cisco MGX 8250 shelf command line interface commands—refer to the commands that apply to the PXM1 card.
Cisco MGX 8230 Edge Concentrator Installation and Configuration, Release 1.1.31	Cisco MGX 8230 shelf installation procedures—refer to the sections describing the installation and configuration of the PXM1 card.
Cisco MGX 8230 Multiservice Gateway Command Reference, Release 1.1.31	Cisco MGX 8230 shelf command line interface commands—refer to the commands that apply to the PXM1 card.
1.1.32 Version Software Release Notes Cisco WAN MGX 8850, 8230, and 8250 Software	Hardware and software feature upgrades for the Cisco MGX 8850, MGX 8230, and MGX 8250.

Conventions

This publication uses the following conventions to describe commands:

- **Bold** type—indicates command names and user entry text.
- *Italic* type—indicates arguments for which you supply values.
- | |—vertical bars indicate optional arguments.

This publication uses the following conventions to describe examples:

- `Courier` font—indicates terminal sessions and system display information.
- **`Courier bold`** font—indicates user entry.

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Note Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.

Caution Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

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http://tools.cisco.com/RPF/register/register.do

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Using the online TAC Case Open Tool is the fastest way to open P3 and P4 cases. (P3 and P4 cases are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Case Open Tool automatically recommends resources for an immediate solution. If your issue is not resolved using the recommended resources, your case will be assigned to a Cisco TAC engineer. The online TAC Case Open Tool is located at this URL:

http://www.cisco.com/tac/caseopen

For P1 or P2 cases (P1 and P2 cases are those in which your production network is down or severely degraded) or if you do not have Internet access, contact Cisco TAC by telephone. Cisco TAC engineers are assigned immediately to P1 and P2 cases to help keep your business operations running smoothly.

To open a case by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)
EMEA: +32 2 704 55 55
USA: 1 800 553-2447

For a complete listing of Cisco TAC contacts, go to this URL:

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TAC Case Priority Definitions

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Priority 2 (P2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

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  http://cisco.com/univercd/cc/td/doc/pcat/

- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press online at this URL:

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- *Packet* magazine is the Cisco quarterly publication that provides the latest networking trends, technology breakthroughs, and Cisco products and solutions to help industry professionals get the most from their networking investment. Included are networking deployment and troubleshooting tips, configuration examples, customer case studies, tutorials and training, certification information, and links to numerous in-depth online resources. You can access Packet magazine at this URL:

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- *iQ Magazine* is the Cisco bimonthly publication that delivers the latest information about Internet business strategies for executives. You can access iQ Magazine at this URL:

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- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

  http://www.cisco.com/ipj

- Training—Cisco offers world-class networking training. Current offerings in network training are listed at this URL:

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Overview of the VISM and VISM-PR Cards

This chapter provides a general introduction to VISM and VISM-PR and describes the hardware and software modules, and installation procedures. The following topics are described:

- "VISM and VISM-PR Card Types" section on page 1-1
- "VISM and VISM-PR Card Physical Characteristics" section on page 1-5
- "VISM and VISM-PR Card Features" section on page 1-6
- "Installing VISM Hardware and Software" section on page 1-13
- "Software Upgrades" section on page 1-20

Note The term VISM is used to refer to the product software—either for the VISM card or for the VISM-PR card. The terms VISM and VISM-PR are used when discussing hardware only.

The VISM card, in combination with a Cisco MGX 8000 Series platform, enables telephone calls on conventional time-division multiplexed (TDM) voice circuits to be transported over an Asynchronous Transfer Mode (ATM) packet-switched and VoIP networks. The VISM card is a single height card designed to operate in the following platforms:

- Cisco MGX 8850 Release 1, wide area switch
- Cisco MGX 8250, edge concentrator
- Cisco MGX 8230, edge concentrator

Note VISM is not supported on the Cisco MGX 8260 switch.

VISM and VISM-PR Card Types

VISM and VISM-PR cards are installed in Cisco MGX 8000 Series switches as front cards and their associated back cards—card sets. There are two types of VISM front cards (see Figure 1-1):

- AX-VISM-8T1—Supports up to eight T1 lines carrying digitized voice
- AX-VISM-8E1—Supports up to eight E1 lines carrying digitized voice

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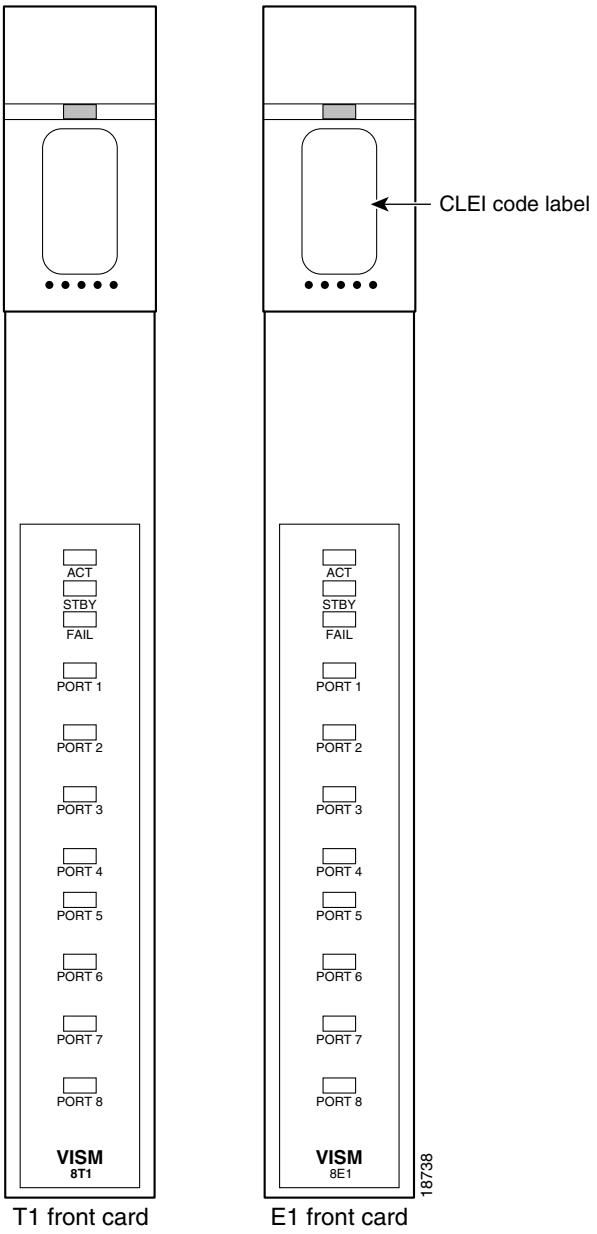
Note Using the Service Resource Module (SRM) and the 1:N redundancy features, other physical configurations are supported. Refer to the "VISM and VISM-PR Card Features" section on page 1-6 for more details.

Figure 1-1 VISM T1 and E1 Front Cards



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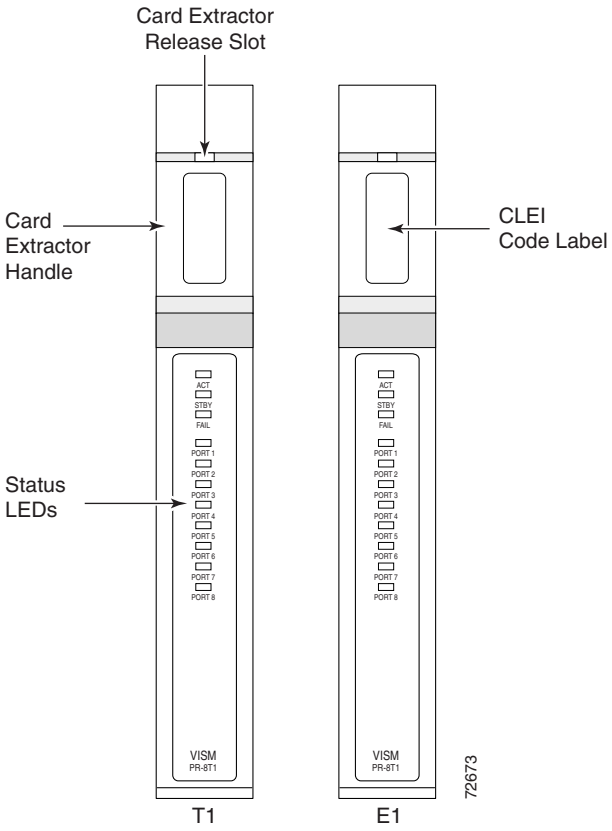
There are two types of VISM-PR front cards (see Figure 1-2):

- MGX-VISM-PR-8T1—Supports up to eight T1 lines carrying digitized voice
- MGX-VISM-PR-8E1—Supports up to eight E1 lines carrying digitized voice

Figure 1-2 VISM-PR T1 and E1 Front Cards



The VISM and VISM-PR front cards have the same associated back cards. There are two types of VISM/VISM-PR T1 back cards (see Figure 1-3):

- AX-RJ48-8T1—Supports eight T1 lines using RJ-48 connectors; use with a T1 front card.
- AX-R-RJ48-8T1—Supports eight T1 lines; use with a redundant T1 front card.

There are four types of VISM/VISM-PR E1 back cards (see Figure 1-3):

- AX-RJ48-8E1—Supports eight E1 lines using RJ-48 connectors; use with an E1 front card.
- AX-R-RJ48-8E1—Supports eight E1 lines; use with a redundant E1 front card.
- AX-SMB-8E1—Supports eight E1 lines using SMB connectors; use with an E1 front card.
- AX-R-SMB-8E1—Supports eight E1 lines; use with a redundant E1 front card.

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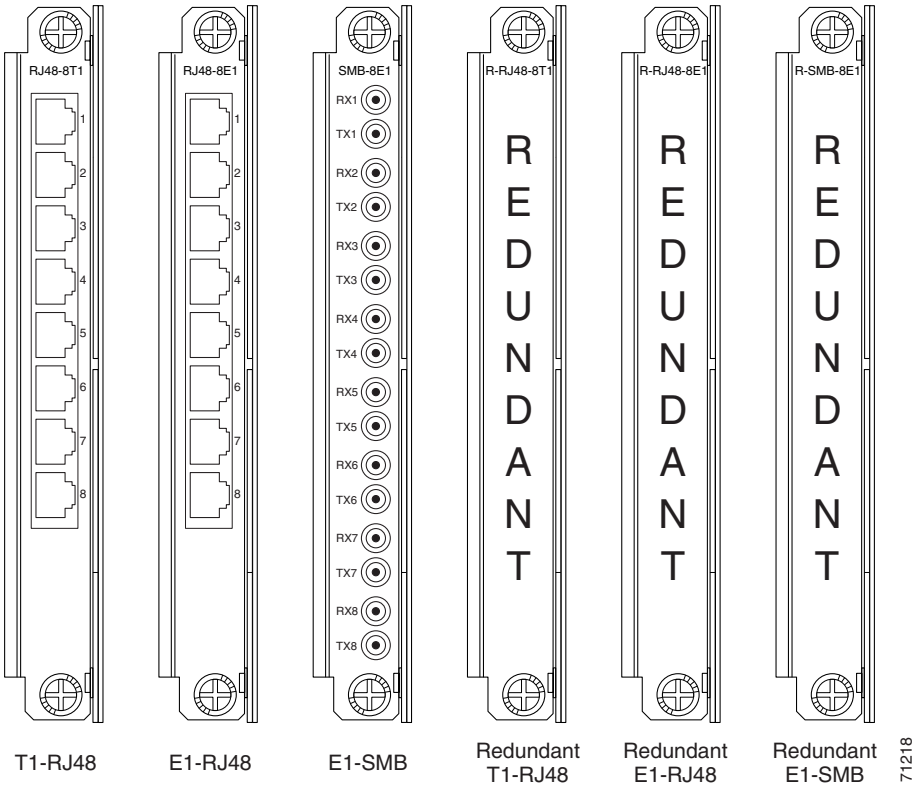
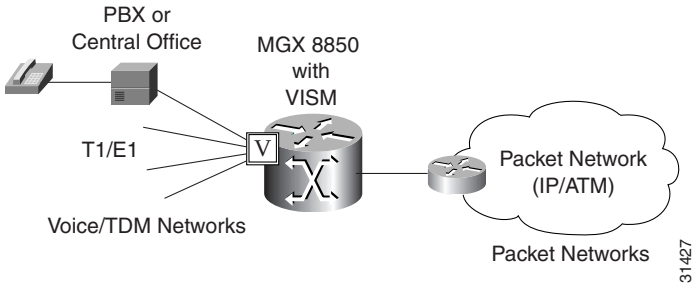
Figure 1-3 VISM T1 and E1 Back Cards



The VISM or VISM-PR card and MGX 8000 Series switch combination provides an interface, or voice gateway, between conventional TDM networks and packet-switched networks (see Figure 1-4).

Figure 1-4 Cisco MGX 8850 and VISM as a Voice Gateway



Connection to the packet network is performed by Cisco MGX 8000 Series switch Processor Module cards—PXM1, PXM1E, and PXM45—which communicate with a VISM card through the switch's midplane cellbus. Refer to the documents listed in Table 5 of the "Related Documentation" section on page xiv for more information on the MGX 8000 Series switch midplane cellbus.

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VISM and VISM-PR Card Service Types

VISM cards are configured with the following service types:

- Constant bit rate (CBR)

Note CBR is not supported with a combination of a PXM1 with either an RPM or external router.

- Variable bit rate real time, VBR (RT)
- VBR non-real time (NRT)

VISM-PR card connections with the RPM-PR card requires the VBR (NRT) 3 service type on the PXM1E and PXM45 platforms.

If you are using a VISM-PR card in combination with a PXM1E, PXM45, or RPM-PR card, you must use the VBR (NRT) 3 selection when adding a connection.

The following connection service types can be configured with VISM 3.0 and higher:

- VBR (RT) 2
- VBR (RT) 3
- VBR (NRT) 2

VISM and VISM-PR Card Physical Characteristics

VISM cards are equipped with the following:

- Eight T1 or E1 ports
- Digital signal processors (DSPs)
- High-level data link control (HDLC) framer
- Broadband interface to the packet network

VISM Card Architecture

VISM card architecture provides the following:

- Flexibility that allows the incorporation of new or improved technology as it becomes available.
- Application flexibility that allows VISM to be used in a range of situations that provide interoperability with a wide variety of equipment types.
- Modularity that allows equipment to be purchased and installed as it is needed for scalability.

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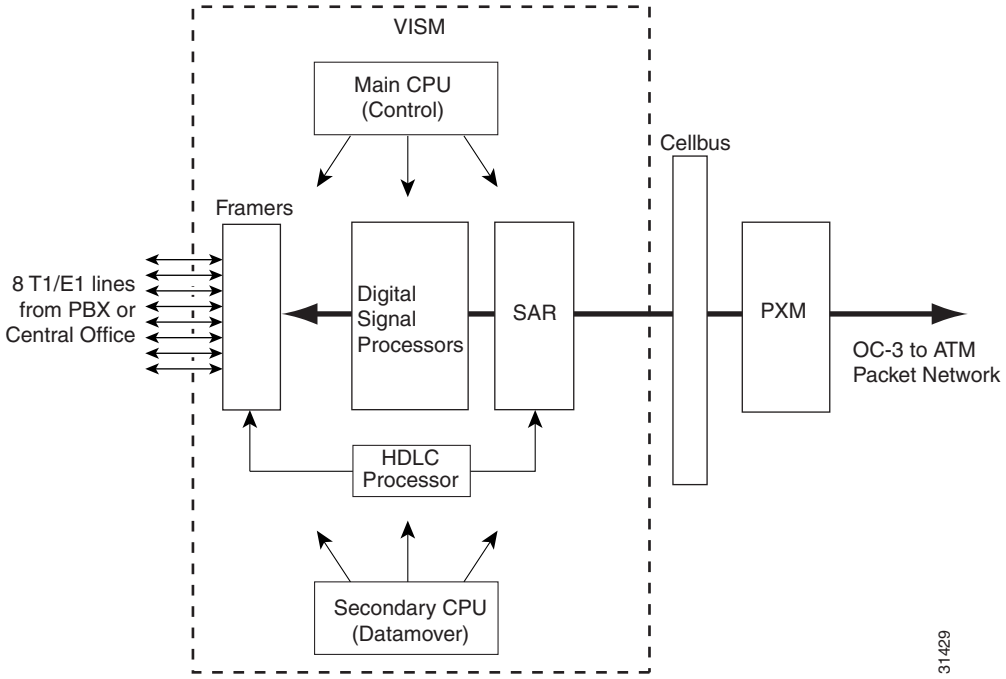
Figure 1-5 shows a simplified diagram of the VISM architecture and its major components.

Figure 1-5 VISM Card Block Diagram



The card is broadly divided into a TDM side and an ATM side. The T1/E1 framers, the array of DSPs, and the HDLC processor support the TDM side. The ATM adaptation layer (AAL) and the segmentation and reassembly (SAR) sections support the ATM side.

VISM is under the control of two independent processors. The main processor performs the control tasks—configuration, call setup and teardown, and management. The second processor, the datamover, handles the moving and processing of the voice and voiceband data traffic through the system.

The VISM card itself contains no ports for the connection of management stations. Workstations, PCs, or terminals used to manage VISM must be attached via the PXM card which provides both serial EIA/TIA-232 and Ethernet ports.

VISM and VISM-PR Card Features

VISM cards process high-density digital voice circuits and provide dynamic compression, echo cancellation, dejittering, silence suppression, and packetization. The VISM card uses the following features which you can configure:

- Eight standard T1 or E1 interfaces with the following line coding:
  - Bipolar 8-zero substitution (B8ZS)—for T1
  - Alternate mark inversion (AMI)—for T1
  - High density bipolar 3 (HDB3)—for E1

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- Voice over ATM (VoATM) using AAL2 cells—No Logical Link Control/Subnetwork Access Protocol (LLC/SNAP) encapsulation.

Note Multiplexing is not supported for AAL2 SVCs.

- VoIP using AAL5 cells to RFC 1889.
- Extended Superframe (ESF) framing with or without cyclic redundancy check (CRC).
- Pulse code modulation (PCM) A/Mu law codecs.
- Programmable 24, 32, 48, 64, 80, 96, 112, 128 ms tail delay near end ECAN.
- Voice compression with the following standards:
  - G.711
  - G.726-16k
  - G.726-24k
  - G.726-32k
  - G.726-40k
  - G.729a
  - G.729ab
  - G.723.1-H
  - G.723.1a-H
  - G.723.1-L
  - G.723.1a-L

Note The G.723.1 codecs are not supported in combination with the VISM card. The G.723.1 codecs are supported with the VISM-PR card.

- Nx64 clear channel (N = 1 only) support.
- Voice activity detection (VAD) and comfort noise generation (CNG) using variable threshold energy (Cisco proprietary).
- Call agent Simple Gateway Control Protocol (SGCP) Version 1.0, 1.1, 1.5, SGCP 1.1+, 1.5, and Media Gateway Control Protocol (MGCP) 0.1 and 1.0.
- Backhauling channel associated signaling (CAS) signaling to a call agent using xGCP (backhauling can be accomplished with any supported SGCP and MGCP protocol).
- Backhauling Primary Rate Interface (PRI) signaling via Reliable User Datagram Protocol (RUDP) to a call agent.
- Common channel signaling (CCS) transport across an AAL5 trunk.
- Fax and modem VoIP bearer transmissions.
- Dual (redundant) virtual circuits across the packet network.
- Full continuity testing (COT). Supports origination and terminating loopback and transponder COT between VISM and the central office on the TDM side.
- Loop timing, which can be used as the master clock for the entire MGX 8000 Series platform and local clock.

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- Line loopback (DS1) toward the TDM lines.
- Channel loopback (DS0) toward both the TDM lines and the ATM network.
- Transmission and reception of bit error rate tester (BERT) signals over loopbacked lines.
- Redundant alarm indication signal (RAI) and alarm indication signal (AIS) alarms.
- Extracting a DS0 CCS channel and directing it to the TDM signaling function.
- 1:N cold redundancy using subrate multiplexing (SRM)-3T3 (bulk mode support for T1 lines only) and SRM-E (for OC3) capabilities. Calls do not persist during switchover.
- Graceful shutdown of ongoing voice calls when the VISM is taken out of service for maintenance or other reasons. Forced shutdown is also supported.

Caution A forced shutdown of the VISM or VISM-PR card may result in dropped calls.

Redundancy and Bulk Distribution

Redundancy for VISM cards with or without bulk distribution can be provided through the Service Redundancy Module (SRM) and SRM-E. Redundancy for VISM is also provided by Media Gateway Controller (MGC) redundancy groups. VISM redundancy is cold redundancy in which ongoing calls do not persist during switchover.

Note SRM-E is supported with PXM1 and PXM1E cards only.

Redundancy with bulk distribution requires a spare VISM card to be installed. The system uses the three T3 ports of the SRM back card instead of the normal T1 lines on the VISM back cards. VISM cards in bulk distribution mode do not require back cards.

The TDM voice data transmitted or received over the T3 ports are distributed to the VISM card as if they had been received over VISM T1 back card ports in the normal manner. This feature reduces the number of physical lines required to support VISM, but requires external equipment to multiplex and demultiplex the T1 data onto the T3 lines.

With or without bulk distribution, redundancy allows for the spare VISM card to automatically take over the functions of a failed VISM card. When the failed card is repaired, switching back to the repaired card is not automatic. You must manually change the repaired card back to the active state with the command line interface. See Chapter 4, “Configuring VISM Features.”

Note 1:1 redundancy using Y-cables is not supported by VISM.

Redundancy can also be configured at the ATM permanent virtual circuits (PVCs) level. Two separate PVCs can be set up, each using a different PXM physical port and each routed to a separate router. Configure one PVC as active and the other as standby. Both PVCs are monitored by heartbeat OAM F5 loopback cells every 200 ms. If three consecutive OAM cells are lost, the PVC fails, and only the remaining PVC is active. A PVC will recover automatically when five consecutive OAM cells are received while the PVC remains in standby mode (no automatic fallback to active state is provided).

Control and bearer PVCs can be set up with a redundant PVC.

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Operating Modes

The VISM/VISM-PR card performs in the following operating modes:

- Voice over IP (VoIP) switching/trunking
- Switched AAL1 switched virtual circuits (SVCs)
- Switched AAL2 SVC
- Switched AAL2 PVC—this mode is not supported in VISM Release 3.0
- AAL2 trunking
- VoIP and switched ATM AAL1 SVC

The VISM/VISM-PR card, in order to support the operating modes, supports connections to three major interfaces:

- Voice TDM network
- ATM network
- Call agent—signaling (either CAS or CCS but not both) and call control

In VoIP switching, switched AAL2 PVC, AAL1 SVC, and AAL2 SVC modes, all three of these interfaces are always present and active. In AAL2 trunking mode, the interface to the call agent interface is not present and the only active interfaces are to the TDM network and the ATM network.

The operating modes, combined with features you configure, are used by VISM cards in a wide variety of telephony applications. For example:

- Provide many of the functions of a tandem (Class 4) switch. VISM can be used to replace, or partially offload, a Tandem switch by directing calls over a packet network rather than the conventional voice TDM network.
- Concentrate voice and data user services onto a single broadband circuit for transmission over the packet network. In this application, VISM performs as a front end to a voice gateway.
- The VISM/MGX combination is used to concentrate voice (and fax/modem voiceband data) user services over a preprovisioned AAL2 trunk. VISM passes bearer and signaling data across a packet network and does not perform call setup and teardown functions.

VoIP Switching and Switched AAL2 PVC Operating Modes

In VoIP switching mode and switched AAL2 PVC mode, VISM operates under the control of a call agent to set up and tear down calls. When a call is set up, VISM transports voice payloads over an ATM network to the called station destination. VISM performs either as a voice gateway or as a multiservice access front end to a voice gateway.

Note This document refers to the device that provides the interface between VISM and the telephone Signaling System 7 (SS7) as a call agent. Other terms that describe the same device are Virtual Switch Controller, Media Gateway Controller, and Gatekeeper.

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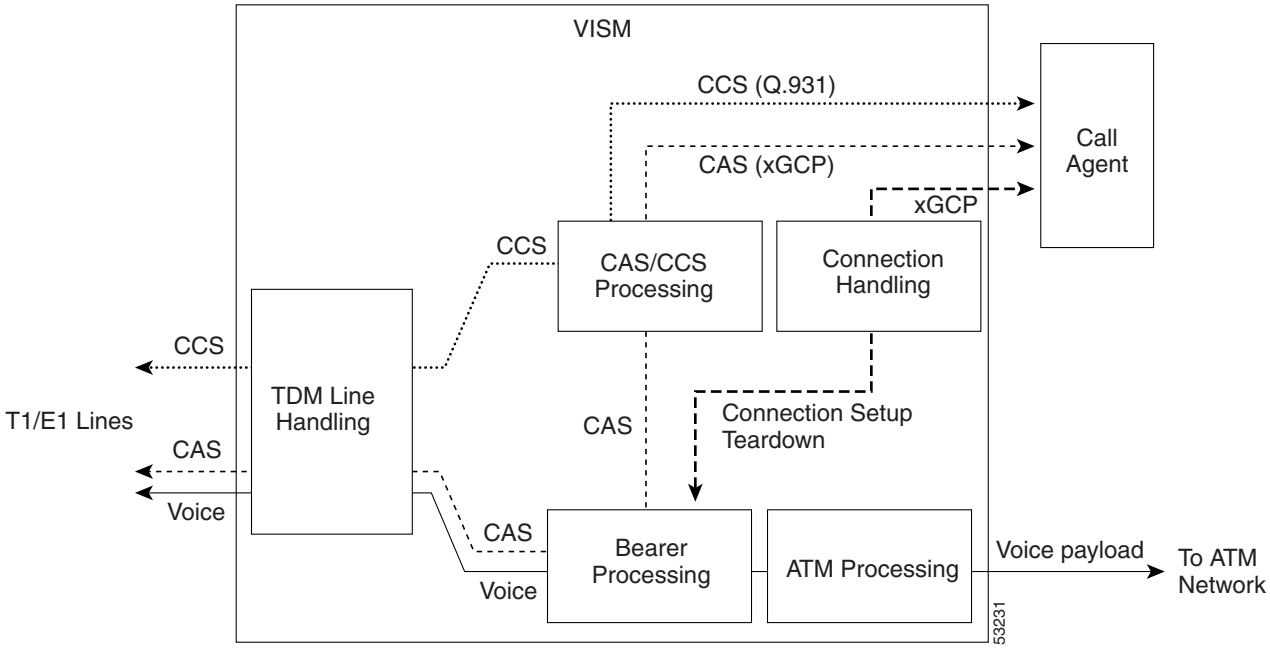
Figure 1-6 shows the major functional blocks and interfaces for the VoIP switching and switched AAL2 PVC operating modes.

Figure 1-6 VISM Block Diagram for VoIP Switching and Switched AAL2 PVC Operating Modes



The CAS signaling path on the TDM side is embedded in the voice stream but is separated at the bearer processing function. The CAS signaling then joins the CCS signaling path for CAS/CCS processing and is backhauled to the call agent. The path between the call agent and bearer processing, via a connection handling function, is for call setup and teardown.

Voice TDM Network Interface

The voice payload path is shown as a solid line along the bottom of Figure 1-6. All external TDM streams arrive and depart on the T1/E1 lines. Depending on the application, these streams consist of voice bearer channels (with or without CAS signaling) and separate CCS channels (if CCS signaling is used). The TDM line handling function provides the physical layer interface, which includes framing, line codes, clocking, loopbacks, physical alarms, etc. Bearer channels, including CAS, are sent to the bearer processing function. CCS channels are sent to the CAS/CCS processing function.

Further processing of the bearer channels is performed by the DSPs. This processing provides ECAN, compression, A/Mu law conversion, silence suppression, and fax/modem handling. If CAS signaling is present, signaling bits are extracted at the DSP stage and sent to the CAS/CCS processing function.

ATM Network Interface

The ATM processing function receives the processed DS0 voice streams and prepares them for transport over a packet network. The voice streams are divided into specific sample periods (for example, 5 ms or 10 ms) and formatted into service specific convergence sublayer (SSCS) packets appropriate for the method of transport over the ATM network. The available transport methods are VoIP (using AAL5) and voice over AAL2. Processing of the ATM packets further segments the voice payload into ATM cells for transport over the network using a SONET port on the PXM card.

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Call Agent Interface

The call agent interface consists of CAS signaling or CCS signaling and call control. The path between the call agent and bearer processing, via a connection handling function, is for call setup and teardown.

The CAS signaling path on the TDM side is embedded in the voice stream (bearer DS0s) and is separated at the bearer processing function. The CAS signaling (robbed bits, digits, and tones) is passed to the CAS/CCS processing function where it is passed (backhauled) to the call agent under the control of the call agent. The mechanism for communicating between VISM and the call agent is a gateway control protocol:

- MGCP
- SGCP
- SRCP

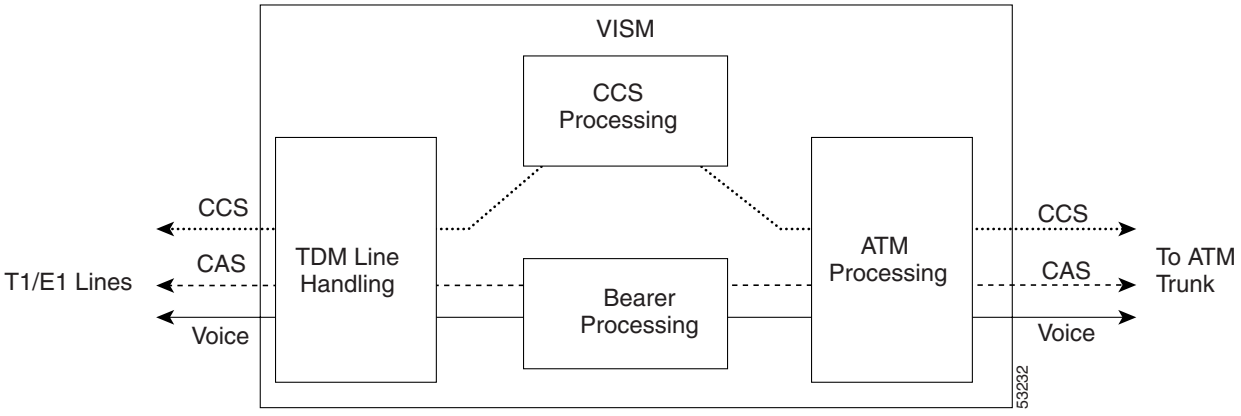
The separate CCS signaling path channels are passed to the CAS/CCS processing function and backhauled to the call agent. The CCS signaling is transported as ISDN Q.931 messages both on the TDM side and on the call agent side. On the TDM side, the messages are carried in the Q.921 layer protocol (which terminates at the VISM card). On the call agent side, communication with the call agent consists of Q.931 messages encapsulated in RUDP/UDP/IP packets. The Q.931 connection is terminated at the call agent and not at the VISM card.

The call control path uses MGCP, SGCP, and SRCP for call setup and teardown. Because signaling and call control are so intertwined, both call control and CAS use the same path and protocol for the VISM card to call agent communications.

AAL2 Trunking Operating Mode

In the AAL2 trunking operating mode, the VISM card serves as an access to one or more trunks to preprovisioned locations. VISM may be used at both ends of the trunk, or at one end with a compatible device at the other. In AAL2 trunking mode, VISM plays no part in call setup and teardown. Other network elements handle call control while VISM merely handles voice transport over the trunks. Figure 1-7 shows the major functional blocks for the AAL2 trunking operating mode.

Figure 1-7 VISM Block Diagram for the AAL2 Trunking Operating Mode



The AAL2 trunking mode is less complex than the VoIP switching and AAL2 PVC switched modes because there is no call control involved—and no need for a call agent.

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The voice bearer path is treated in the same manner as in the VoIP switching and AAL2 PVC modes, except that only preprovisioned AAL2 PVCs are available for transport of voice over the trunks. The CAS signaling data is transported over the ATM network in the same AAL2 trunk as Type 3 messages. The CCS signaling data is transported over the ATM network in a separate AAL5 PVC.

VoIP Trunking Operating Mode

The Voice over IP (VoIP) trunking feature allows the VISM to connect to the PBX, or central office digital systems, using T1/E1 digital interfaces and converts the TDM bit stream into RTP packets, after ECAN and compression, and transports it over the IP network.

No call agent is required for setting up and tearing down calls. You must configure the DS0 circuits. The connection between VISM and the first router will be ATM after which it will be IP only. VISM and the router can have one or multiple PVCs to transport the data. You have the option to configure PVC for bearer or control. If the PVC is configured as bearer and no control PVC exists, then PRI signal traffic and bearer traffic will go through this PVC. If you configure separate PVCs for control and bearer, PRI signaling will go through control traffic only. You can modify some of the connection parameters after it is added.

CAS is transported to the far end using a Cisco proprietary format (not NSEs). PRI is transported over RUDP to the far end once the trunk is provisioned between the originating and terminating VISM.

PRI transport is handled in a way identical to PRI backhaul except that the PRI traffic is sent to remote gateway instead of a call agent. You can configure one line for PRI trunking and another line for PRI backhauling.

You must provision the LAPD trunk when using this feature. You must configure a line number, remote gateway IP address, local UDP port, and remote gateway UDP port, and then open a trunk. You must then configure the D-channel as a trunk or backhaul:

- To configure the D channel as trunk, use the **addlapdtrunk** command prior to the **addlapd** command. If the addlapd command has been previously executed for that line, the command is rejected.

  Note Two D channels on one line are not supported.

- To configure the D channel as backhaul, use the **addses** command prior to the **addlapd** command. If you do not configure either trunk or session, the **addlapd** command is rejected.

AAL1/AAL2 SVC Operating Mode

Release 3.0(0) supports the AAL1 and AAL2 switched virtual circuit (SVC) operating modes for VISM-PR cards. VoAAL1 SVC is supported with the G.711 codec and clear channel.

Note VAD is not supported in combination with AAL1 SVCs. CAS is not supported in combination with SVCs.

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VoAAL2 SVC is supported with the G.711, G.726, G.729a, and G.729ab codecs and profiles 1, 2, 3, 7, 8, 100, 101, 110, and 200.

Note The AAL1/AAL2 SVC operating modes require you to use a PXM1E or PXM45 in your MGX 8000 Series switch chassis.

Installing VISM Hardware and Software

You can install VISM cards in the following configurations:

- Install a VISM front card and a back card as a pair. The front and back cards must occupy the same slot.
- Install a VISM front card with no back card. The MGX 8000 Series bulk distribution feature allows this configuration. Access to and from the TDM lines is performed by the Service Resource Module (SRM) and the MGX 8000 Series distribution bus.

Note VISM cards in bulk distribution mode do not require back cards.

- Install a VISM front card as a redundant card with a redundant back card in the same slot.

Note VISM T1 front cards require T1 back cards and E1 front cards require E1 back cards. Ensure that your configuration meets this requirement.

In each of these configurations, connections to the packet network are made through the MGX 8000 Series cellbus and an OC-3 port located on the MGX 8000 Series PXM card. Refer to the "VISM and VISM-PR Card Physical Characteristics" section on page 1-5 for more information on front and back cards.

Installing VISM Cards in MGX 8000 Series Chassis

VISM front and back cards can be installed in the following MGX 8000 Series platforms with these basic guidelines:

- Cisco MGX 8850 Release 1—Up to 24 slots can be used for VISM cards.
- Cisco MGX 8250—Up to 24 slots can be used for VISM cards.
- Cisco MGX 8230—Up to eight slots can be used for VISM cards.

The VISM card can be used with the Processor Module-1 (PXM1) card.

Installing VISM-PR Cards in MGX 8000 Series Chassis

VISM-PR front and back cards can be installed in the following MGX 8000 Series platforms with these basic guidelines:

- MGX 8250 and MGX 8850—Up to 24 slots can be used for VISM-PR cards.
- MGX 8230—Up to 8 slots can be used for VISM-PR cards.

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The VISM-PR card can be used with the following Processor Module cards:

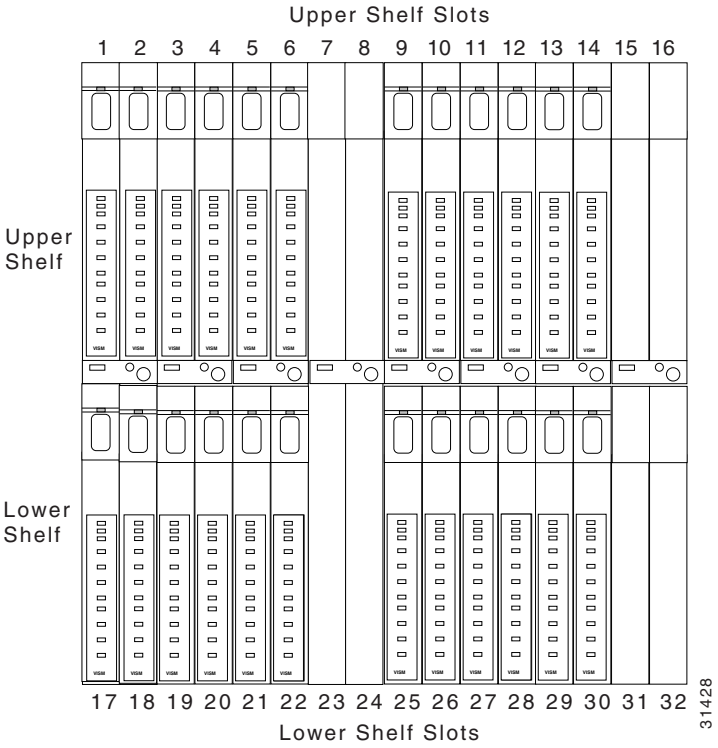
- PXM1
- PXM1E
- PXM45

You must install an additional fan tray spacer at the bottom of your MGX 8000 Series switch chassis directly above the intake plenum if you are using the VISM-PR card in combination with the PXM45 card. Refer to the *Cisco MGX 8850 Hardware Installation Guide, Release 3* for step-by-step instructions to install a fan tray.

MGX 8850 and MGX 8250 Chassis

VISM and VISM-PR card installation in a Cisco MGX 8850 or MGX 8250 platform consists of installing one front card and one back card (if not using the bulk distribution feature) in either the upper or lower shelf of the chassis. You can use slots 1 to 6, 9 to 14, 17 to 22, and 25 to 30 to install VISM cards (see Figure 1-8).

Figure 1-8 Available Chassis Slots for VISM Cards in the MGX 8850 and MGX 8250—Front View



Note If you use all the available slots, you can configure the MGX 8850 and MGX 8250 with up to 24 VISM cards. However, the two lower shelf cellbuses can each sustain a bandwidth of one OC-3/STM-1 link. This bandwidth limits the number of E1 ports on the lower shelf, when using the G.711 codec, to 78, which limits the number of VISM cards to 10.

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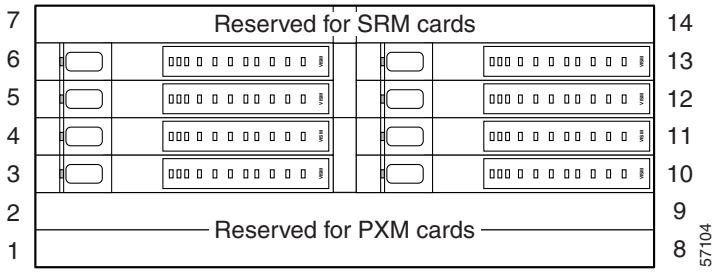
MGX 8230 Chassis

VISM card installation in a Cisco MGX 8230 platform consists of installing one front card and one back card (if not using the bulk distribution feature) in either a left or right shelf slot. You can use slots 3 to 6, and 10 to 13 to install VISM cards (see Figure 1-9). If you use all the available slots, you can configure the MGX 8230 with up to eight VISM cards.

Figure 1-9 Available Chassis Slots for VISM Cards in the Cisco MGX 8230—Front View



Installing VISM and VISM-PR Front and Back Cards

This section describes the following hardware installation procedures:

1. Installing a VISM or VISM-PR Front Card
2. Installing a VISM Back Card
3. Connecting Cables to Cards

Installing a VISM or VISM-PR Front Card

Complete the following instructions to install a VISM or VISM-PR front card:

Step 1 Position the rear card guides over the appropriate slot in the chassis.

Step 2 Gently slide the card all the way into the slot and press the insertion/extractor lever until it snaps into the vertical (MGX 8250 or MGX 8850) or horizontal (MGX 8230) position.

Caution The card should slide in and out with only slight friction on the EMI gaskets on the adjacent board. Do not use force. Investigate any binding.

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Installing a VISM Back Card

Complete the following instructions to install a VISM back card:

Step 1 Ensure that the two extractor levers are at the “in” position.

When you insert the card into the slot, the levers should be vertical or horizontal along the line of the back card.

Step 2 Position the rear card guides over the appropriate slot in the chassis.

Step 3 Gently slide the card all the way into the slot.

Step 4 Tighten the two captive screws on the back card’s faceplate.

Step 5 Tighten the upper and lower screws to prevent misalignment of the card.

Note Do not overtighten the screws. Tighten them only enough to secure the card.

Connecting Cables to Cards

After you install the VISM front and back cards, connect the T1 or E1 cables to the RJ-48 or SMB connectors on the back cards. The T1 and E1 cables connect the eight ports on the back cards to the voice T1 or E1 lines. The T1 lines use RJ-48 connectors. The E1 lines use either RJ-48 or SMB connectors.

Note In all text references to cables, “transmit” refers to a cable used for data moving away from the VISM card, and “receive” refers to a cable used for data moving toward the VISM card.

Cabling for RJ-48 Connectors on T1 and E1 Ports

For T1 and E1 ports that connect through an RJ-48 connector, each connector has:

- Transmit TIP (TTIP) pin
- Transmit RING (TRNG) pin
- Receive TIP (RTIP) pin
- Receive RING (RRNG) pin
- Two pins for shielded ground

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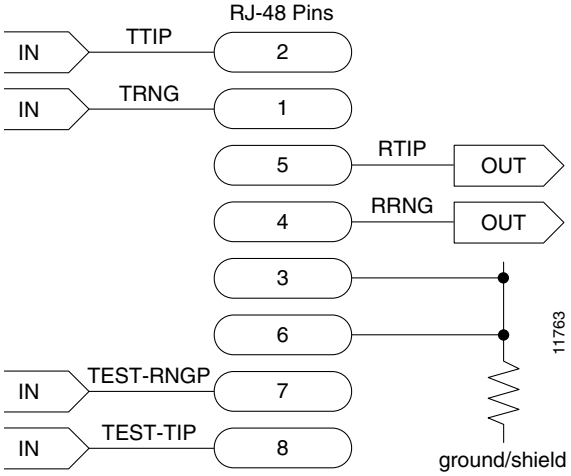
The connector wiring is shown in Figure 1-10.

Figure 1-10 RJ-48 PIN Connector



Cabling for SMB Connectors on E1 Ports

When you use the E1 VISM back card with SMB cables, the E1 trunk cables connect the customer DSX-1 cross-connect point or E1 channel service unit (CSU) to the node using 75-ohm coaxial cable fitted with SMB connectors.

Removing VISM and VISM-PR Front and Back Cards

This section describes the following hardware installation procedures:

- Removing a VISM or VISM-PR Front Card
- Removing a VISM Back Card

Removing a VISM or VISM-PR Front Card

Step 1 Insert a small, flat-blade screwdriver into the slot in the insertion/extractor lever and press until the latch springs open, to approximately 10°.

Step 2 Continue to lift the insertion/extractor lever to disconnect the connector.

Step 3 Gently pull the card out of the chassis.

Removing a VISM Back Card

Step 1 Remove any cables connected to the back card.

Step 2 Use a small, flat-blade screwdriver to unscrew the two retaining screws in the back card's faceplate.

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Step 3 Pull both of the extractor levers out to the horizontal position.

This action starts the removal of the card.

Step 4 Gently pull the card out of the chassis.

Applying Power to the VISM Card

You apply power to a VISM card by installing it in an already running MGX 8000 Series platform, or by applying power to a chassis that has a previously installed VISM card. When power is applied, the VISM card performs extensive testing and initialization functions. If the card has already been configured, the initialization downloads the configuration data from the disk on the PXM. This process takes approximately two minutes, during which the LED indicator blinks. When the Active LED becomes solid green, the card is in the Active state and is ready to be configured (if necessary) and able to process data.

Installing VISM Software Upgrades

VISM Release 3.0 provides a graceful upgrade procedure from Release 1.5 and higher. The existing VISM configuration is preserved throughout the upgrade procedure, provided that the following conditions are met:

- The Cisco MGX 8000 Series platform must be configured with at least two VISM cards in a redundant configuration. Refer to the add redundancy, **addred**, command in the Cisco MGX 8850, MGX 8250, and MGX 8230 command reference guides for details.
- The VISM cards must be running VISM 2.0 and be configured to the desired configuration.
- The VISM Release 3.0 software must have been already downloaded to the Cisco MGX shelf. Refer to *Release Notes for Cisco Voice Interworking Services Module Release 3.0(0)* for details.
- Cisco recommends an upgrade in the backup boot to version 3.0.

Complete the following steps to upgrade the VISM software. In the following procedure, old-rev refers to the firmware before the upgrade (2.0) and new-rev refers to the firmware after the upgrade (3.0).

Note If the VISM card you are upgrading is part of a nonredundant configuration, complete Step 1 to Step 4 only.

Step 1 Log in to the active PXM card (slot 7 or 8).

Step 2 Save the existing configuration as a contingency plan by entering:

```
savesmcnf <SM slot#>
```

where:

SM slot# is the slot number of the active VISM card.

This command saves the existing configuration to the C:\CNF directory. This file can be used during the downgrade procedure, if necessary.

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Step 3 Execute the PXM **install** command for the backup boot image:

```
install bt sm <SM slot#> <new bb rev>
```

where:

SM slot# is the slot number of the active card, and new bb rev is the version number of the new backup boot image.

This command downloads the backup boot image to the flash in the VISM card slot you specified. The new backup boot image takes effect upon the next card reset.

Step 4 Execute the PXM **install** command:

```
install sm <SM slot#> <new-rev>
```

where:

SM slot# is the slot number of the VISM card that was active before the upgrade process started, and new-rev is the file name of the new firmware (for example, vism_8t1e1_002.001.000.000.fw).

This command causes the standby VISM card to reset and be placed in the hold state, running the new-rev firmware. The active VISM card is unaffected by this command. At this point the primary firmware is still the old-rev and the secondary firmware is new-rev.

Step 5 Execute the PXM **newrev** command:

```
newrev sm <SM slot#> <new-rev>
```

where:

SM slot# is the slot number of the VISM card that was active before the upgrade process started, and new-rev is the filename of the new firmware.

This command causes the standby VISM card to become the active VISM card running the new-rev firmware. The previously active VISM card is placed in the hold state, becoming the new standby VISM card, and is still running the old-rev firmware. The primary and secondary firmware switches with the new-rev becoming the primary firmware.

Step 6 Execute the PXM **commit** command:

```
commit sm <SMslot#> <new-rev>
```

where:

SM slot# is the slot number of the new standby VISM card and new-rev is the filename of the new firmware.

This command causes both VISM cards to run the new-rev firmware. After a short time, the cards switch automatically so that the originally active VISM card becomes the active card and the originally standby VISM card becomes the standby card. The two VISM cards are now back to their original condition except that both cards are now running the new-rev firmware.

Step 7 Log in to the active VISM card and use the display commands (**dspendpts**, **dspcasvar**, etc.) to confirm that the configuration has been preserved through the upgrade process.

Cisco recommends that you further verify the configuration by making some minor modifications to the configuration, checking that the changes have been executed correctly, and then changing the configuration back again.

See Appendix B, “VISM and VISM-PR—3.0 Specifications” for more information about the VISM and VISM-PR card specifications.

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Software Upgrades

VISM/VISM-PR Release 3.0 provides a graceful upgrade procedure for the following releases:.

- From VISM 1.5 to VISM 3.0
- From VISM 2.1 to VISM 3.0
- From VISM 2.2 to VISM 3.0

Caution Installing VISM software upgrades from VISM Release 2.2 with CALEA to VISM Release 3.0 without CALEA is not graceful.

Prerequisites

To ensure that the VISM/VISM-PR configuration is preserved throughout the upgrade procedure, you must complete the prerequisites listed in this section.

Before starting the graceful upgrade procedure, complete the following prerequisites:

- Configure your MGX 8000 Series shelf with at least two VISM cards in a redundant configuration.

  For more information on adding redundancy, refer to the add redundancy, **addred**, command in the Cisco MGX 8250, Cisco MGX 8230, and Cisco MGX 8850 PXM1-based Command Reference documentation and the Cisco MGX 8830 and MGX 8850 PXM1E/ PXM45-based Command Reference documentation.
- Ensure that the VISM/VISM-PR cards are running at least Release 2.1.
- Download software Release 3.0 for VISM/VISM-PR to the MGX 8000 Series shelf.
- If you are using the CALEA feature, ensure that you have the version of VISM/VISM-PR software that supports CALEA.

VISM/VISM-PR Upgrades with PXM1

This section describes the procedures for upgrading VISM/VISM-PR software when the VISM/VISM-PR is used with a PXM1 card.

Download VISM/VISM-PR Boot Code and Firmware to PXM1

To download the VISM/VISM-PR boot code and firmware to the PXM1 card, use TFTP.

Step 1 Log in to your TFTP server.

Step 2 Download the bootcode and firmware images from the Cisco website.

Step 3 Download the selected revision of service module boot code into the service module.

a. **tftp** <*node_name* or *IP address*>

b. **bin**

c. **put** <*backup boot*> POPEYE@SM_1_0.BT

d. **quit**

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Step 4 Download the selected firmware file.

To upgrade all VISM cards, proceed to Step 4c. To upgrade an individual VISM card, proceed to Step 4d.

a. **tftp** <*node_name or IP address*>

b. **bin**

c. **put** <*FW file*> POPEYE@SM_1_0.FW

quit

d. **put** <*FW file*> POPEYE@SM_1_<*slot number of card to upgrade*>.FW

quit

Note Do not enter two **put** commands in the same TFTP session.

Step 5 Proceed to the "Upgrade VISM/VISM-PR Firmware with PXM1 Card" section on page 1-21 to install the download.

Upgrade VISM/VISM-PR Firmware with PXM1 Card

Software Release 3.0 is for VISM and VISM-PR cards. Ensure that the VISM and VISM-PR cards have the minimum boot code version of vism_8t1e1_VI8_BT_3.1.00.fw.

The following versions of VISM software Release 3.0 are available:

- 003.000.000.000—without CALEA
- 003.050.000.000—with CALEA

In this procedure the following conditions apply:

- If two VISM or VISM-PR cards are part of a redundancy group, initially the primary card is in the active state, and the secondary card is in the standby state.
- Old-rev refers to the firmware, Release 2.2 and prior.
- New-rev refers to the firmware after the upgrade, Release 3.0.

Perform the firmware upgrade on the VISM or VISM-PR cards. Do not remove the VISM cards and replace them with VISM-PR cards at this time.

Step 1 Log in to the active PXM1 card (slot 7 or 8).

Step 2 Save the existing configuration as a contingency plan by entering:

savesmcnf <*SM slot#*>

This command saves the existing configuration in the C:CNF directory. This file can be used during the downgrade procedure, if necessary.

Step 3 Execute the PXM **install** command:

install sm <*SM slot#*> <*new-rev*>

where:

SM slot# is the slot number of the primary VISM or VISM-PR card and *new-rev* is the file name of the new firmware (for example, vism_8t1e1_003.000.000.000.fw).

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This command causes the secondary VISM or VISM-PR card to reset and come up in the standby state, running the new-rev firmware. The primary VISM or VISM-PR card is unaffected by this command.

Step 4 Execute the PXM **newrev** command:

newrev sm <*SM slot#*> <*new-rev*>

where:

SM slot# is the slot number of the primary VISM or VISM-PR card and *new-rev* is the filename of the new firmware.

This command causes the primary VISM or VISM-PR card to reset and the secondary VISM or VISM-PR card to become active and running the new-rev firmware.

Step 5 Execute the PXM **commit** command:

commit sm <*SM slot#*> <*new-rev*>

where:

SM slot# is the slot number of the primary VISM or VISM-PR card and *new-rev* is the filename of the new firmware.

The two VISM or VISM-PR cards are now back to their original condition except that both cards are now running the new-rev firmware.

Step 6 Log in to the active VISM or VISM-PR card and use the display commands (for example, **dspendpts**, **dspcasvar**, and so forth) to confirm that the configuration has been preserved through the upgrade process.

Note For more than one primary VISM or VISM-PR card in a redundancy group, ensure that the secondary card is in the standby state and repeat Step 4 and Step 5 for each VISM card in the redundancy group.

It is also recommended that you perform the following verifications:

- Make minor modifications to the configuration.
- Check that the changes have been executed correctly.
- Change the configuration back again.

Note If the VISM or VISM-PR card is not part of a redundancy group, complete Step 1 to Step 3.

For more information about the VISM and VISM-PR card specifications, see "VISM and VISM-PR—3.0 Specifications" section on page B-1.

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Boot Code Upgrade Procedure with PXM1 Cards

Complete the following steps to upgrade the new backup boot code when you are using PXM1 cards in your MGX 8230, MGX 8250, and MGX 8850 chassis:

Note This procedure re-programs the VISM boot code for previous VISMs using the VISM runtime image version 1.0 to 2.0.

Step 1 Telnet to MGX shelf and **cc** to the VISM card.

Note VISM must be in the active state in order to update the VISM boot code.

Step 2 Access the server where the VISM boot code resides and TFTP the VISM boot code to the VISM card:

a. Type **tftp** *<IP address of the MGX shelf>*

b. Type **bin** at the tftp prompt.

Caution Ensure that you perform Step 2b. If you to not perform Step 2b. the boot code is corrupted and not recoverable.

c. Type **install** [bt] [sm <*slot*>] <*version*> at the PXM prompt.

Caution Do not touch the VISM card until the status comes back ('Sent xxx bytes in yyy seconds'). Failure to follow this recommendation corrupts the boot code, which cannot be recovered.

When the boot code is being written to PROM, you will see comments displayed at the VISM prompt. This behavior is normal and expected.

Step 3 Use the **resetcd** command for VISM from the PXM card for the latest boot take effect.

Step 4 Type the **version** command to verify the correct boot code.

Note Step 4 is optional.

You have completed upgrading the new VISM backup boot code.

VISM-PR Upgrades with PXM1E and PXM45

This section describes the procedures for upgrading VISM-PR software when the VISM-PR is used with a PXM1E or PXM45 card.

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Download VISM-PR Boot Code and Firmware to PXM1E and PXM45

To download the VISM-PR boot code and firmware to the PXM1E or PXM45 card, use FTP.

Step 1 Access the image on the Cisco Web site.

Step 2 To download the image, enter the **ftp** command.

ftp *node-ip*

where *node-ip* is the IP address of the node to which you want to download the image.

Step 3 Enter your user name and password.

Step 4 Enter **bin**.

Step 5 Access the appropriate directory.

cd C:FW

Step 6 Download the image to your C:FW directory.

put *image-version*

where *image-version* is the downloaded image from Step 1.

Step 7 To exit the download procedure, enter **bye**.

Upgrade VISM-PR Firmware with PXM1E and PXM45 Cards

Ensure that the VISM-PR cards have the minimum boot code version of vism_8t1e1_VI8_BT_3.1.00.fw.

The following versions of VISM-PR software Release 3.0 are available:

- 003.000.000.000—without CALEA
- 003.050.000.000—with CALEA

Perform the firmware upgrade on the VISM-PR cards.

Step 1 Log in to the active PXM1E or PXM45 card.

Step 2 Ensure that the card is in the redundant mode, where the active card is the primary card.

Step 3 To save the existing configuration as a contingency plan, enter the **saveallcnf** command.

Step 4 To load the new software, enter the **loadrev** command.

loadrev *sm-primary-slot-num new-rev*

where *sm-primary-slot-num* is the slot number of the VISM-PR card in which you want to install the new software; and *new-rev* is the new firmware version number for the VISM-PR software.

Caution Temporary traffic loss occurs.

Step 5 To execute the download, enter the **runrev** command.

runrev *sm-primary-slot-num new-rev*

Caution Temporary traffic loss occurs.

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Step 6 To commit the new download to the VISM-PR card, enter the **commitrev** command.

commitrev *sm-primary-slot-num new-rev*

You have completed the steps. Proceed to the Boot Code Upgrade Procedure with PXM1E and PXM45 Cards, page 1-25.

Boot Code Upgrade Procedure with PXM1E and PXM45 Cards

Complete the following steps to upgrade the new backup boot code when you are using PXM1E or PXM45 cards in your MGX 8000 Series chassis:

Step 1 Complete the steps in the VISM-PR Upgrades with PXM1E and PXM45, page 1-23 section.

Step 2 Log in to the PXM1E or PXM45 card.

Step 3 Use the **burnboot** *sm-primary-slot-num new-rev* command, where *sm-primary-slot-num* is the slot number of the VISM-PR card you want to upgrade and *new-rev* is the firmware version number of the new VISM software, to upgrade the VISM-PR boot code.

The VISM-PR card automatically resets and becomes active with the latest boot code image. You have completed the boot code upgrade procedure.

VISM/VISM-PR Downgrade Procedure

Use this procedure to downgrade VISM software from software Release 3.0 to an earlier VISM release. By following the downgrade procedure described here, the configurations are retained after the downgrade.

Note The configurations that existed with old-rev firmware should have been saved earlier. You cannot downgrade from VISM-PR to VISM.

Complete the following steps to downgrade the VISM software from software Release 3.0 for VISM/VISM-PR to Release 2.2, 2.1, 2.0, or 1.5:

Step 1 If the VISM card is in a redundancy group, remove the redundancy.

delred <*SM slot#*>

Step 2 Download the old-rev firmware onto the MGX shelf.

Step 3 Execute the PXM **clrsmcnf** command:

clrsmcnf <*SM slot#*>

where:

SM slot# is the slot number of the VISM card to be downgraded.

The VISM card resets on executing this command. Wait for the card to come active.

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Step 4 Execute the PXM **restoresmcnf** command:

restoresmcnf -f <*filename*> -s <*SM slot#*>

where:

The *filename* is the name of the old configuration file that was saved while the old-rev firmware was running. The file can be found in the C:CNF directory on the MGX shelf.

The *SM slot#* is the slot number of the VISM card to be downgraded.

The VISM card resets again. When the card becomes active, it has the old-rev firmware running with the old configuration.

Step 5 Reconfigure redundancy group, if required.

VISM to VISM-PR Hardware Upgrade

Complete the following steps to upgrade your system from VISM cards to VISM-PR cards.

Caution You must install the redundant (standby) VISM-PR card first. Failure to follow this recommendation results in traffic loss. In addition, do not remove an active VISM card from your chassis. Ensure that you configure an active VISM card to the standby state before you remove it and replace it with a VISM-PR card.

Step 1 Remove the redundant (standby) VISM card from your chassis.

Step 2 Install a VISM-PR card in the slot you removed the VISM card from in Step 1.

Step 3 Administratively configure the VISM-PR card you installed in Step 2 as primary (active).

Step 4 Remove the now redundant VISM card from your chassis.

Step 5 Install a VISM-PR card in the slot you removed the VISM card from in Step 4.

Step 6 Log in to the redundant (secondary) VISM-PR card and execute the **dspcd** command. Verify that the output from the **dspcd** command lists the card type under FunctionModuleType as a VISM-PR card. If the card type still indicates the VISM card, execute the **resetcd** *slot-num* command from the PXM and repeat the **dspcd** command to insure that the correct card type is shown.

Step 7 Log in to the active VISM-PR card and execute the **dspcd** command. Verify that the output from the **dspcd** command lists the card type under FunctionModuleType as a VISM-PR card. If the card type still indicates the VISM card, execute the **resetcd** *slot-num* command from the PXM and repeat the **dspcd** command to insure that the correct card type is shown.

Step 8 If you have no other VISM cards in your chassis, you have completed the hardware upgrade procedure; do not proceed to Step 9. If you have more VISM cards in your chassis, proceed to Step 9.

Step 9 Remove a standby VISM card from your chassis.

Step 10 Install a VISM-PR card in the slot you removed the VISM card from in Step 9.

Step 11 Repeat Step 9 and Step 10 to remove any remaining VISM cards in your chassis and replace them with VISM-PR cards.

Step 12 Repeat Step 6 and Step 7 on the remaining VISM-PR cards to insure the correct card type is shown.

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Telephony Applications Using VISM

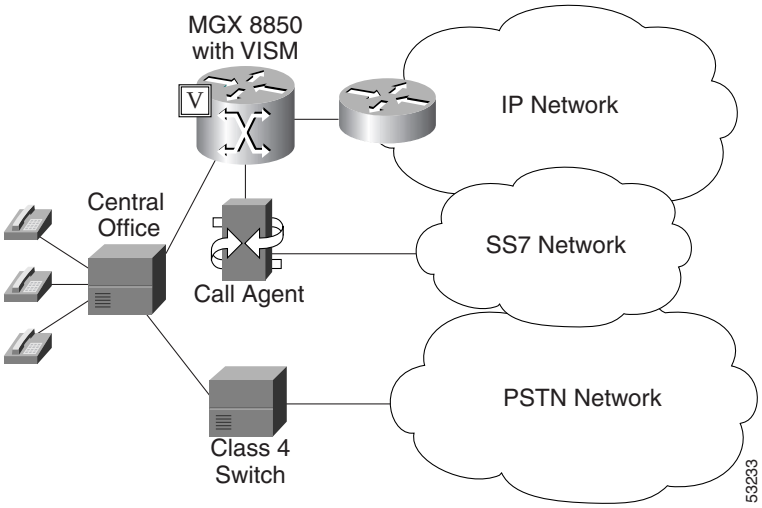
This chapter describes the VISM card and the ways it is used in telephony applications to transport traditional TDM voice traffic as digitized voice traffic over ATM networks. The following topics are discussed:

- "Tandem Switch Offloading" section on page 2-1
- "Multiservice Access" section on page 2-3
- "AAL2 Trunking" section on page 2-3

Tandem Switch Offloading

Figure 2-1 shows VISM used to offload a Class 4 tandem switch by transporting a portion of the voice traffic across an ATM network instead of the Public Switched Telephone Network (PSTN). VISM acts as the voice gateway in this application. Use VISM in the VoIP switching or switched AAL2 PVC operating mode to enable this application.

Figure 2-1 VISM Used in a Tandem Switch Offloading Application



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When a call is initiated, the central office can use either the Class 4 switch or VISM to handle the call. When calls are passed to VISM, VISM backhauls the signaling to an SGCP or MGCP compliant call agent (such as the Cisco VSC 3000). The call agent at the near end manages the call setup in conjunction with the call agent at the far end and the calling and called VISM cards.

Note Although not shown in the diagram, an alternative method for handling CCS signaling is to transport it directly between the central office and the call agent with no VISM involvement. With this arrangement, there is no backhauling function performed in the VISM.

Each VISM card supports up to eight T1 or E1 lines for voice traffic. You can use an alternative method to connect the voice lines to the VISM cards—the TDM lines can be carried over a T3 line to an SRM card in the Cisco MGX shelf where the individual T1 lines are broken out and distributed to the VISM card internally. Refer to the Cisco MGX 8250, Release 1 and the Cisco MGX 8230 installation and configuration documents for details of the SRM card.

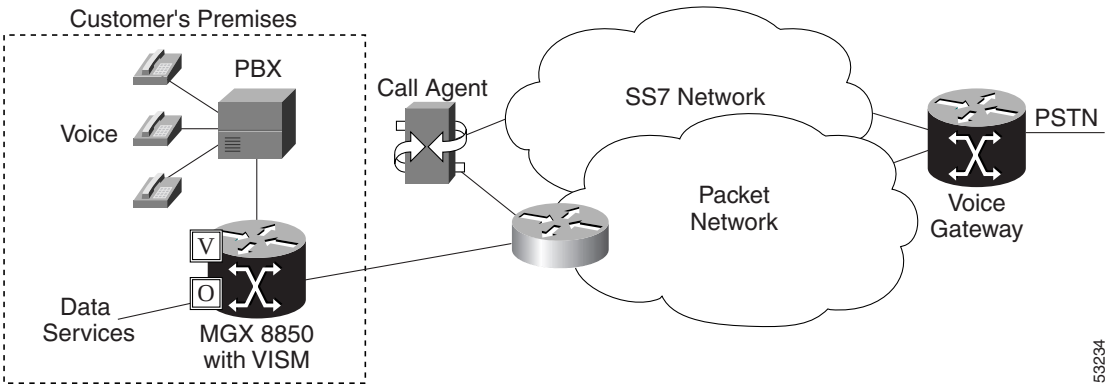
The VISM connects to the ATM network using either VoAAL2 or VoIP (UDP/IP packets encapsulated in AAL5 PVCs). VISM and the call agent communicate with each other and their activities are coordinated through either SGCP or MGCP.

For VoIP, when the call setup procedure is complete, each VISM has the IP address of the other VISM associated with the call. An end-to-end IP bearer circuit is established between the calling and called parties. At this point, the voice conversation can proceed.

By way of example, Figure 2-1 shows only one location for the VISM and call agent; in reality there is a similar arrangement for each tandem switch.

Figure 2-2 shows the connection from VISM to the call agent in greater detail.

Figure 2-2 VISM Used as a Voice Gateway Application



The VISM/MGX 8000 shelf is connected to the network by an OC-3 line which is used for both the voice payload and the communication with the call agent. A network edge router moves the voice traffic across the network to the called party's VISM and routes call control information between the VISM and the call agent.

For reliability, two PVCs using separate physical links to two separate edge routers to the packet network can be established. If the primary circuit fails, transmission automatically switches to the secondary circuit. For enhanced reliability, the physical OC-3 links to the network can be protected by the SONET APS feature.

Using all the available slots, the Cisco MGX 8850 and the Cisco MGX 8250 can be configured with up to 24 VISM cards and the Cisco MGX 8230 can be configured with up to 8 VISM cards.

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Each of the two lower shelf cellbuses can sustain a bandwidth of one OC-3/STM-1 link. This bandwidth limits the number of E1 ports on the lower shelf, when using the G.711 codec, to 78 (approximately 10 VISM cards).

Multiservice Access

A Cisco MGX 8000 series shelf, combined with one or more VISM cards, provides multiservice access between a customer's TDM network and a voice gateway over a packet network. The voice gateway provides the interface to the telephone network.

When voice traffic is conveyed over a packet network using VISM and an MGX 8850—multiservice access—the MGX 8850 is located either at the customer's premises (probably the case for large customer installations) or at the central office. Use VISM in the VoIP switching or switched AAL2 PVC operating mode to enable this application.

This application is very similar to the tandem switch offloading application, except that instead of performing as the voice gateway, VISM provides access to the voice gateway.

VISM operates in conjunction with an MGCP or SGCP compatible call agent via an edge router/switch on the packet network. Signaling is backhauled from VISM to the call agent through this connection. The call agent connects to the SS7 network and handles call setup and teardown across the packet network. The VISM connects to the ATM network and handles the voice payload between the TDM voice/data network and a voice gateway. For transmitting the voice payload to the network, VISM uses either VoIP transported in AAL5 ATM cells or VoAAL2.

Other data services (such as frame relay) can also be accommodated by configuring the MGX 8000 series shelf with the appropriate service modules (for example, FRSM) and using separate PVCs into the packet network.

AAL2 Trunking

A Cisco MGX 8000 series shelf, in combination with VISM cards, provides AAL2 trunking between a voice TDM network and voice gateways over a packet network. Use VISM in the AAL2 trunking operating mode to enable this application.

Figure 2-3 shows a trunk with a VISM-equipped MGX 8850 shelf at one end of a trunk (at the central office) and a Cisco 3810 Multiservice Access Concentrator and a Cisco MGX 8220 edge concentrator at the other end of the trunk (customer premises).

Figure 2-3 AAL2 Trunking—One End

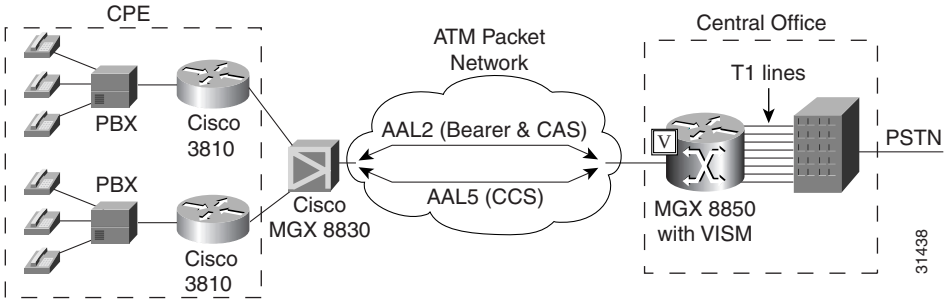

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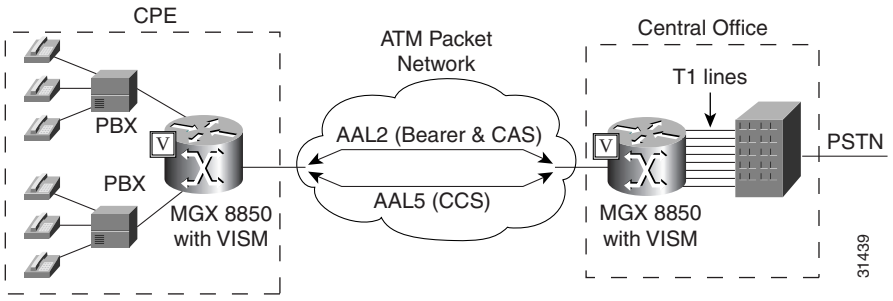
Figure 2-4 shows a trunk with a VISM-equipped MGX 8850 shelf at each end of the trunk.

Figure 2-4 AAL2 Trunking—Two Ends



Note Figure 2-4 shows one trunk; however, VISM can support up to 64 trunks in this arrangement.

In Figure 2-3 and Figure 2-4, the trunk is an AAL2 nonswitched ATM PVC that carries the voice traffic. The voice traffic is delivered to, or received from, the central office over short-haul T1 lines.

If CAS signaling is used, the signaling is transported across the trunk as AAL2 type 3 cells.

If CCS signaling is used, the signaling is delivered across the ATM network as AAL5 cells over separate PVCs. VISM supports up to eight AAL5 PVCs, one for each T1/E1 line.

Other data services (such as frame relay) can be accommodated by configuring Cisco 3810, Cisco MGX 8220, or Cisco MGX 8000 hardware with the appropriate service modules and using separate PVCs into the packet network. The packet network routes these other data services as required.

In AAL2 trunking mode, VISM is not involved with a call agent and the functions of call control. Multiple calls can be transported over a single PVC using the AAL2 channel identifier (CID) mechanism. DS1/DS0s are bound to virtual channel identifier (VCI)/CIDs so that voice traffic from any particular DS0 is automatically passed to its bound VCI/CID (and vice versa).

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CHAPTER 3

VISM Functional Description

The functions performed by VISM are described in the following sections:

- "TDM Line-Handling Function" section on page 3-2
- "Bearer Processing Function" section on page 3-3
- "Signaling Function" section on page 3-5
- "ATM Voice Data Processing Function" section on page 3-11
- "Call Control Function" section on page 3-15
- "Embedded VISM Management Function" section on page 3-19

Figure 3-1 shows the functional blocks of VISM. Items with single asterisks indicate VoIP switching and switched AAL2 PVC functions. Items with double asterisks indicate AAL2 trunking functions. Items without asterisks indicate VoIP switching, switched AAL2 PVC, and AAL2 trunking functions.

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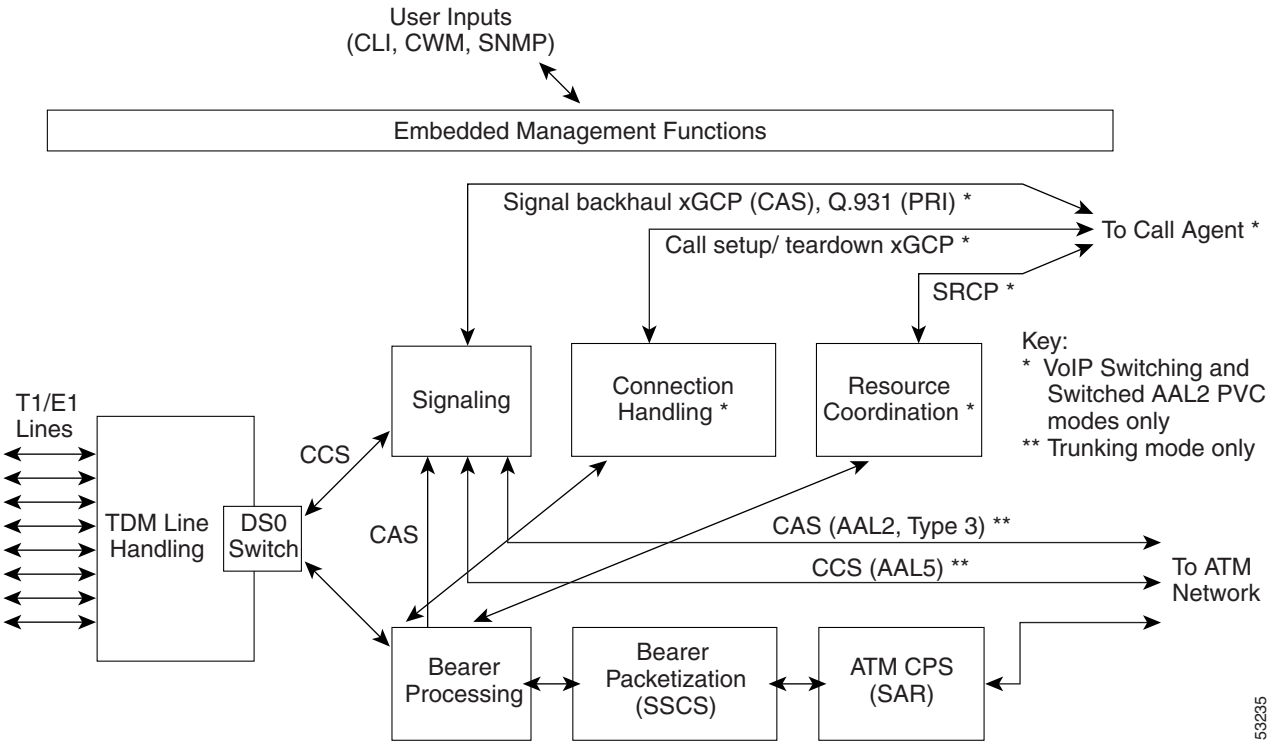
Figure 3-1 VISM Detailed Functional Blocks



TDM Line-Handling Function

The TDM line-handling function provides the physical layer interface to the T1/E1 lines and handles the following features:

- Framing
- Line codes
- Physical layer alarms and failures
- Clocking
- Loopbacks
- Distinguishes between bearer and CCS signaling channels

Outgoing traffic—in from the TDM network and out to the packet network—is processed by the T1/E1 framers where each DS0 is extracted from its DS1 stream and is routed by a DS0 switch to the appropriate function. Bearer DS0s are routed to the bearer processing function. CCS signaling DS0s are routed to the TDM signaling function.

Outgoing traffic—in from the packet network and out to the TDM network—is processed in the opposite manner. The DS0s received from the ATM side are inserted into their respective DS1s and transmitted over the appropriate line in the TDM network.

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Bearer Processing Function

The bearer processing function processes raw bearer DS0 streams from the T1/E1 lines in preparation for packetization and segmentation and reassembly (SAR) processing on the ATM side. Most of the bearer processing is performed by the VISM daughter card's DSPs.

The main processing categories are:

- Echo cancellation, voice compression, and A/Mu law conversion
- Voice activity detection and silence suppression
- Fax and modem handling
- Jitter control
- CAS handling

Echo Cancellation, Voice Compression, A/Mu Law Conversion

Bearer DS0 streams are received from the T1/E1 line function, and each is assigned to a DSP configured for echo cancellation (ECAN). You can configure the following ECAN parameters:

- Residual echo control
- Maximum tail in milliseconds (up to 128 ms)
- Fax and modem tone detection

If voice compression is required, the ECAN voice streams are assigned to a second DSP configured with the required codec. Available compression schemes are:

- G.711 64 kbps (A/Mu law, user configurable)
- G.726-16k
- G.726-24k
- G.726-32k
- G.726-40k
- G.729a
- G.729ab
- G.723.1-H
- G.723.1a-H
- G.723.1-L
- G.723.1a-L

VISM allows the use of codec templates in which the user selects a template instead of specifying each allowable codec individually. VISM supports the following codec templates:

- Template 1—Supports clear channel, G.711a, G.711u, G.729a, G.729ab, G.726-16k, G.726-24k, G.726-32k, and G.726-40k codecs.
- Template 2—Supports clear channel, G.711a, and G.711u codecs.

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- Template 3—Supports G.711u, G.711a, G.726-16k, G.726-24k, G.726-32k, G.726-40k, G.729a, and G.729ab codecs, clear channel.
- Template 4—Supports G.711u, G.711a, G. 726-16k, G.726-24k, G.726-32k, G.726-40k, G.729a, G.729ab, G.723.1-H, G.723.1a-H, G.723.1-L, G.723.1a-L codecs and clear channel.

Within each template, you can specify a preference order for each codec. At call setup time, the codec to be used from the configured template is either specified by the call agent or negotiated between the calling and called VISM cards. If the codec is negotiated, the most preferred codec that both VISM cards can support is selected.

For each codec, VISM supports various packetization periods as described in Table 3-1.

Table 3-1 Supported Codecs and Packetization Periods

Codec	Packetization Period (milliseconds)					
G.711u	5	10	20	—	—	—
G.711a	5	10	20	—	—	—
G.729a	—	10	20	30	40	—
G.729ab	—	10	20	30	40	—
G.726-16k, 24k, 32k, 40k	5	10	20	30	40	—
G.723.1-H	—	—	—	30	—	60
G.723.1a-H	—	—	—	30	—	60
G.723.1-L	—	—	—	30	—	60
G.723.1a-L	—	—	—	30	—	60
Clear channel	—	10	20	—	—	—

Voice Activity Detection and Silence Suppression

You can configure the VISM card DSPs to monitor the TDM voice stream for voice activity. If the voice activity detection (VAD) feature is enabled and no voice activity (silence) is detected for more than a specified period of time, typically 250 ms, the silent voice samples are suppressed. During periods of silence, parameters defining background noises transmit periodically. You can configure the remote VISM to use the background noise information to generate comfort noise at the called end while silence suppression is in operation.

Fax and Modem Tone Detection

You can configure the VISM card DSPs to detect the modem or fax tones on the data lines. For VoIP operating mode, the action is specified using command line interface (CLI) commands. Refer to Chapter 5, “CLI Commands,” for more information on CLI commands. For AAL2 connections, the action is specified in the AAL2 profile. Generally, when a modem or fax tone is detected, VAD and ECAN are turned off and codec is changed to the specified type (for example G.711 or clear channel).

Note If the codec is already set to clear channel, the DSP cannot detect any tones—fax and modem tones are not detected.

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Jitter Control

The VISM card uses voice buffers on the DSP to reduce jitter on outgoing voice streams. Jitter control operates in the following modes:

- Fixed—Allows you to configure a fixed buffer size in the range 0 to 100 ms. This mode is used when latency jitter is nearly constant. This is the default mode for G.711u/a and clear channel codecs, with a 100-ms buffer size.
- Adaptive—Allows you to configure a starting buffer size, but adapts the size of the buffer according to the jitter. Use this mode when latency jitter varies greatly. This is the default mode for all codecs other than G.711u/a and clear channel.

CAS Handling

In applications using CAS, you can configure the VISM card DSPs to monitor incoming traffic and extract the following CAS signaling information:

- ABCD bits
- Digits
- Tones

You can configure VISM to handle various CAS variations such as immediate start, wink start, ground start. The extracted CAS signaling information is sent to the TDM signaling function.

Signaling Function

All TDM signaling enters and exits VISM on the T1/E1 lines and is directed to the signaling function. CAS signaling information is received from the bearer processing function, described in the "Bearer Processing Function" section on page 3-3. CCS signaling information arrives directly from the TDM line handling function, described in the "TDM Line-Handling Function" section on page 3-2.

VISM depends on a combination of the following two features to determine how it handles signaling:

- Operating mode:
  - VoIP switching/trunking
  - Switched AAL2 PVC
  - AAL2 trunking
  - AAL1 SVC
  - AAL2 SVC
  - AAL1/VoIP (for TDM grooming)
- Signaling type:
  - CAS
  - CCS

Signaling enters from the T1/E1 lines and, depending upon the mode and the type of signaling, is processed for the correct protocol and directed to either the call agent or the ATM trunks (see Figure 3-2).

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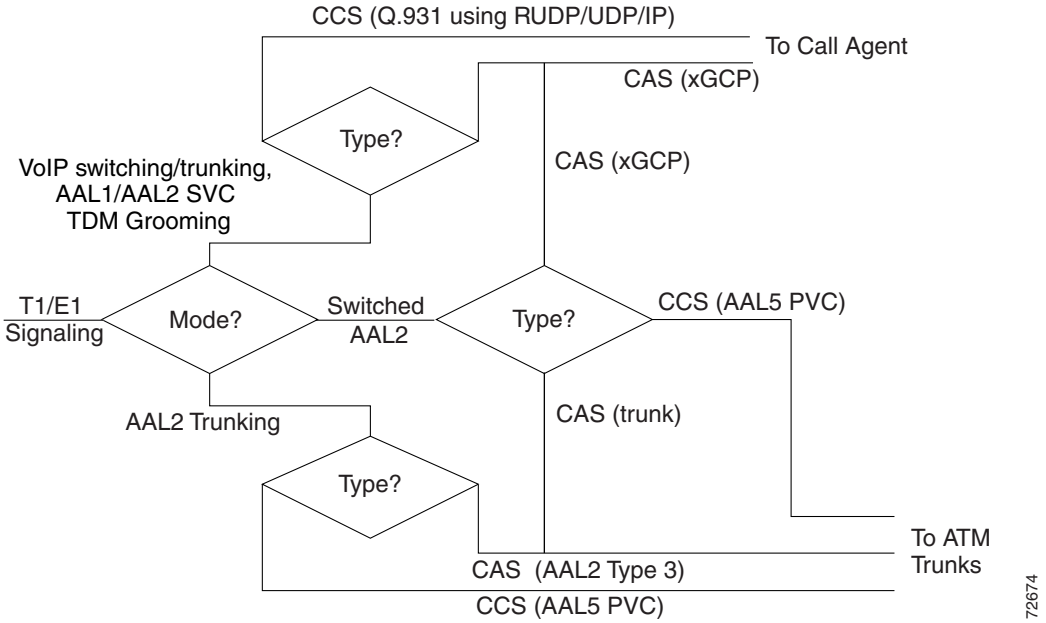
Note You can configure the VISM card to support CCS signaling without VISM card involvement. In this configuration, a CCS channel is connected directly to the call agent that handles all necessary processing of signaling information.

Figure 3-2 VISM Signaling Paths



CAS signaling can be configured, in the switched AAL2 PVC operating mode, to send the signaling to the call agent or over an AAL2 PVC as in the AAL2 application.

CAS Processing in VoIP Switching and Switched AAL2 PVC Operating Mode

In the VoIP switching and switched AAL2 operating modes, CAS signaling is processed by the call agent using SGCP.

The call agent performs the following functions:

- Issues the SGCP Notification Request command to instruct VISM which CAS signals are to be reported to the call agent.
- Instructs VISM which CAS signals to send out the DS0.

The VISM card performs the following functions:

- Responds by sending acknowledge messages in return to call agent commands.
- Sends received CAS signals back to the call agent by using the SGCP Notify command.
- Interfaces with the DSP drivers, which perform the detection and generation of CAS signals.

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Figure 3-3 shows the messages involved in CAS processing with the VoIP switching and switched AAL2 PVC operating modes.

Figure 3-3 CAS Processing—Message Structure

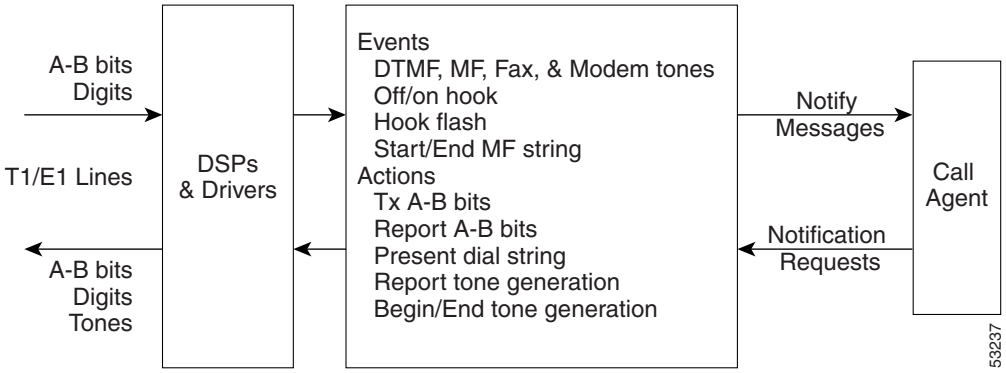

Figure 3-4 shows the local CAS processing call setup message sequences which occur between VISM, the call agent, and the telephone equipment on the DS0.

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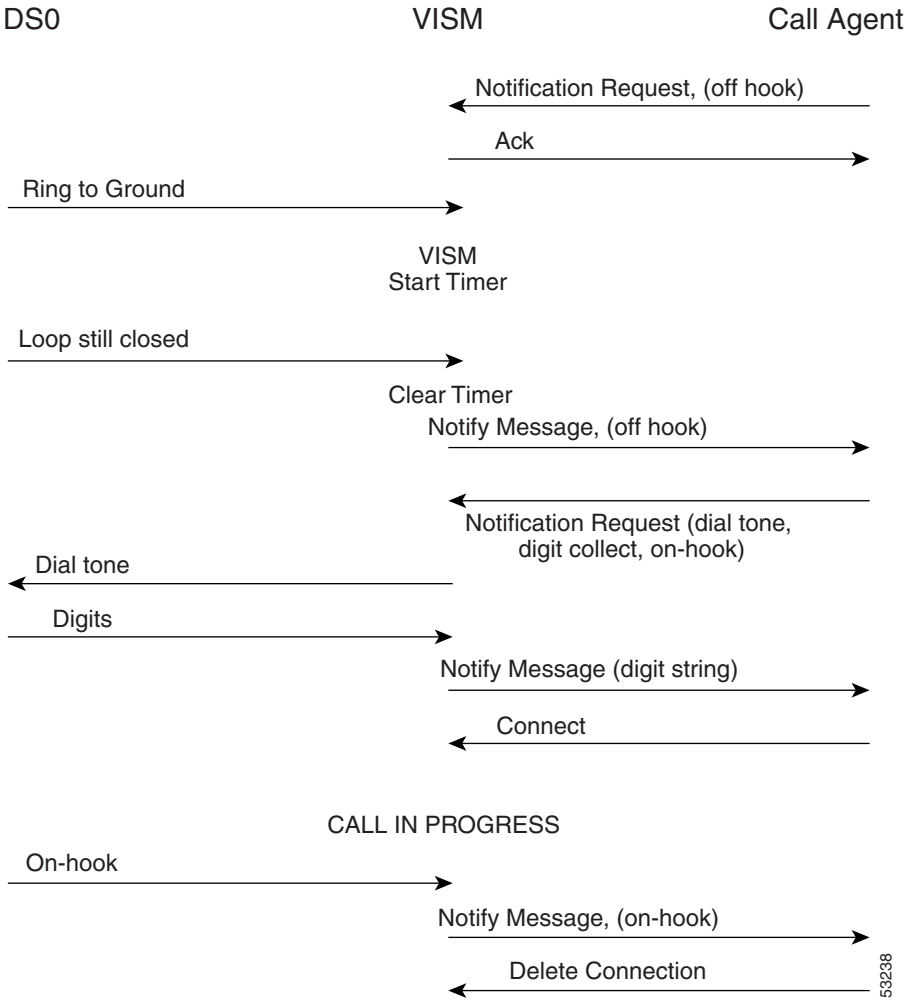
Figure 3-4 CAS Signaling in Initiating and Terminating a Call



Note Figure 3-4 shows only the local CAS aspects of call setup. The entire process of call setup involves many more messages between the local and remote call agents and the local and remote VISMs. Refer to the "Call Control Function" section on page 3-15 for more information.

The call processing for the VoIP switching and switched AAL2 operating modes is described in the following list:

1. The call agent requests VISM to look for an off-hook signal when the line is idle.
2. Upon receipt of an on-hook signal, VISM starts a timer and checks later to ensure that the line is still off-hook.
3. VISM notifies the call agent that the caller has gone off-hook (this timer mechanism is also used when processing on-hook/off-hook signaling to determine flash-hook events).
4. When the call agent is informed that the user is off-hook, the call agent instructs VISM to generate dial tone and to look for dialed digits.

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5. When the call agent receives the dialed number, it uses the dial plan to communicate with the remote call agent to set up the call.
6. The call is terminated when either the called or calling party goes on-hook.

CCS Processing in Switched AAL2 PVC Operating Mode

In the switched AAL2 PVC operating mode, CCS signaling can be configured to pass (backhaul) CCS signals between the user PBXs and the call agents.

You can configure T1 and E1 lines for CCS signaling. You must specify a particular DS0 as an Integrated Services Digital Network (ISDN) D channel to carry the Primary Rate Interface (PRI) signaling. Signaling from the private branch exchange (PBX) is received on the D channel as level 3 Q.931 messages encapsulated in the information field of level 2 Q.921 LAPD information frames.

The Q.921 link is terminated at the VISM, and on the call agent side, a Redundant User Datagram Protocol/User Datagram Protocol/Internet Protocol (RUDP/UDP/IP) connection is used to carry level 3 Q.931 signaling between VISM and the call agent. This link to the call agent flows through an intermediate router. From VISM to the router, the RUDP/UDP/IP packets are segmented and transported as AAL5 ATM cells.

The function of the VISM PRI/backhaul feature is to pass the Q.931 messages between the PBX and the call agent.

VISM handles all Q.921 frame types. For information type frames, the process is described in the following list:

1. VISM extracts the Q.931 frame.
2. VISM then places it in an RUDP datagram.
3. The RUDP datagram is encapsulated in UDP and IP packets (using the IP address and a specified port number of the destination call agent).
4. The SAR section of VISM segments the IP message into AAL5 ATM cells for transport to the call agent via an edge router.

In CCS processing, communication between VISM and the call agent involves both call control information using xGCP protocols and CCS signaling using Q.931 protocol. Both are transported using the AAL5 ATM connection.

Signaling from the call agent to the PBX is handled in the same manner but in reverse:

1. Signaling from the call agent is stripped of its RUDP/UDP/IP headers and trailers.
2. Signaling is then encapsulated into Q.921 information type frames for transmission to the user's PBX.

VISM is not involved with the signaling content but acts as an interface between the PBX and the call agent.

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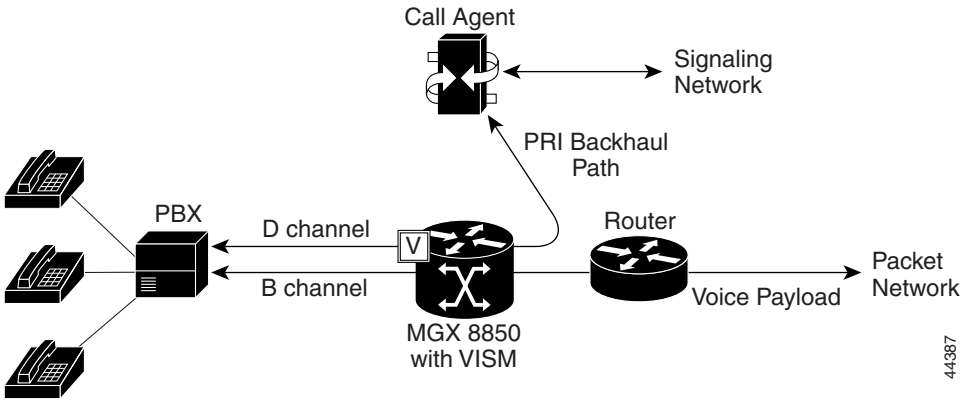
Figure 3-5 shows the VISM PRI/backhaul process.

Figure 3-5 PRI/Backhaul Path

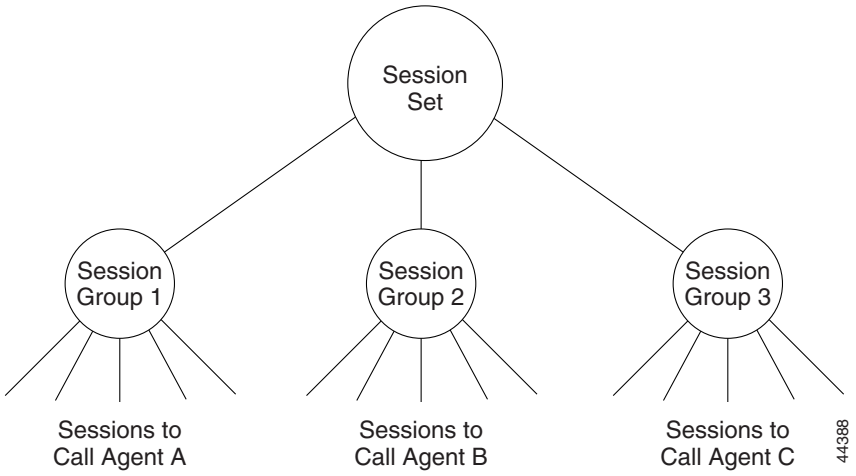


For RUDP links between VISM and the call agents, use a session with a session manager.

A session represents a single RUDP link to a specified call agent. Sessions are organized into session groups, and session groups are organized into session sets. VISM architecture supports up to 64 sessions and up to 16 session groups; however, Release 2.2 supports one session.

Multiple RUDP links for a specified call agent are set up as sessions in a single group. A group is required for each call agent for which CCS signaling is to be backhauled. Within a group, each session is assigned a priority level. When an active session fails, the session manager switches to the next highest priority backup session within the group. Figure 3-6 shows the hierarchy of RUDP sets, groups, and sessions.

Figure 3-6 RUDP Session Hierarchy



VISM maintains a set of counters for the collection of statistics at both the Q.921 and Q.931 protocol levels. The collected statistics include the number of frames/packets/bytes sent and received, the number of resets, the number of discards and retransmissions, etc. Refer to the CCS session and LAPD display commands in Chapter 5, "CLI Commands," for more information on collected statistics for the CCS session and LAPD display commands.

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Use the CLI PRI/backhaul commands to do the following:

- Create and delete session sets
- Create, delete, configure, and display sessions and sessions groups
- Create, delete, configure, and display D channels for CCS
- Display PRI/backhaul statistics

Refer to Chapter 5, "CLI Commands," for more information on CLI commands.

CAS Processing in AAL2 Trunking Operating Mode

CAS signaling is extracted from the voice data and is transported across the packet network in AAL2 trunking operating mode. The signaling is transported across the same trunk (VC) and the same channel identifier (CID) as its associated voice stream, using AAL2 Type 3 messages in accordance with ITU-T I.366.2. The messages are used for CAS (A,B,C, and D) robbed bits, fax/modem tones, and digits and are transported with triple redundancy.

CCS Processing in AAL2 Trunking Operating Mode

CCS signaling is maintained as Q.931 messages and transported across the packet network using an AAL5 PVC in AAL2 trunking operating mode. The local and remote ends of the PVC are the same as those for the AAL2 PVC trunk carrying the associated voice data.

ATM Voice Data Processing Function

The VISM DSPs process incoming voice data (for compression, ECAN, etc.) and then the data is prepared for transport over the ATM network. Voice samples are processed into ATM packets and then into ATM cells in preparation for transport. VISM then transports the cells to Voice over ATM (VoATM) networks with the following supported operating modes:

- VoIP
- Switched AAL2 PVC
- AAL2 trunking
- AAL1 SVC

Transporting Voice Cells with VoIP

The VoIP switching operating mode processes voice cells in the following order to transport them over ATM networks:

1. Formatted into Real-Time Transport Protocol (RTP) packets.

   Note RTP allows time-stamping of the voice samples, which permits dejittering of the samples transmitted to the destination TDM line.

2. Encapsulated in a UDP packet.

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3. Encapsulated in an IP packet.
4. Converted to AAL5 ATM cells for transmission to an edge router on the network.

Figure 3-7 shows the protocol stack for VoIP.

Figure 3-7 VoIP Protocol Stack

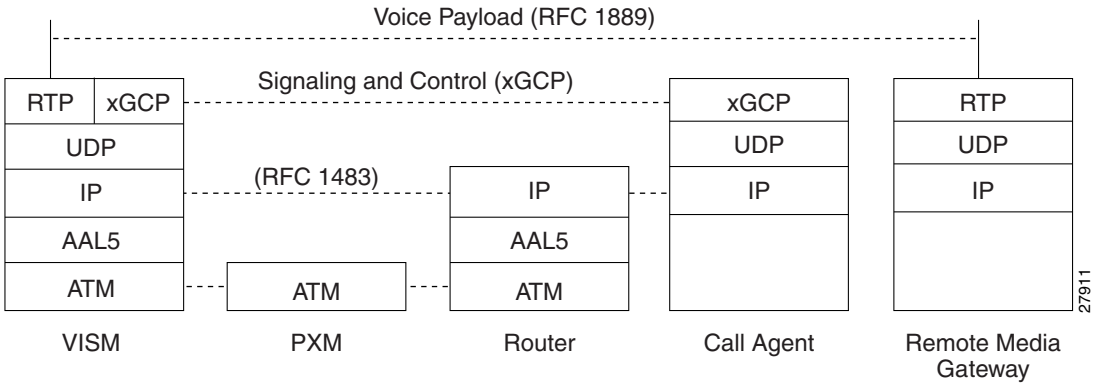
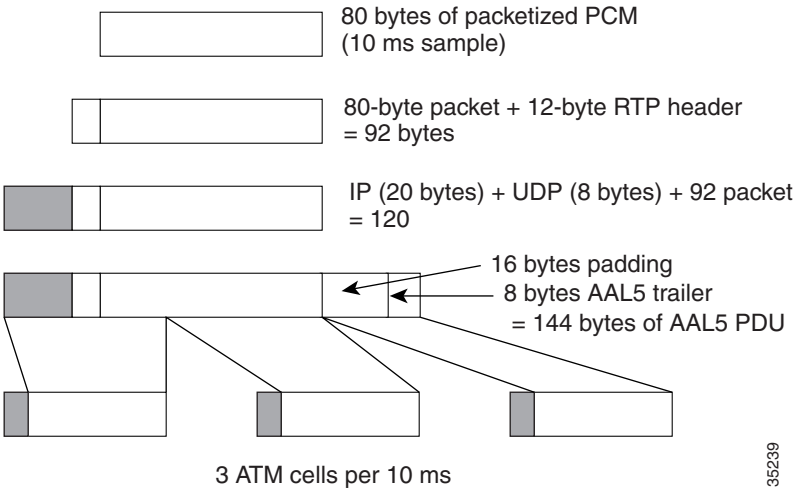


Figure 3-8 shows how a voice sample is packetized and transmitted as cells.

Figure 3-8 VoIP Cell Packetization and Transmission


80 bytes of packetized PCM
(10 ms sample)
80-byte packet + 12-byte RTP header
= 92 bytes
IP (20 bytes) + UDP (8 bytes) + 92 packet
= 120
16 bytes padding
8 bytes AAL5 trailer
= 144 bytes of AAL5 PDU
3 ATM cells per 10 ms
35239

At the layer containing RTP, a 12-byte header is added. At the layer containing UDP, an 8-byte header is added and at the layer containing IP, a 20-byte header is added for a total of 120.

At the layer containing AAL5, the 8-byte AAL5 trailer is added and the data is padded with 16 bytes to make an integral number of ATM cell payload bytes. The resulting protocol data unit (PDU) is 144 bytes in length and is transported in three ATM cells.

A single PVC is set up between the Cisco MGX 8000 series platform and the router. All packets are sent across the PVC regardless of their destination. The router extracts the IP addresses and routes the cells accordingly.

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To improve reliability, VISM supports two independent OC-3 interfaces, each connected to a separate edge router and each with its own PVC. One PVC is designated the primary PVC and the other the secondary PVC. The primary circuit is used unless it fails, in which case VISM switches automatically to the secondary circuit. Switchover may cause a temporary 250-ms delay on the lines.

VISM communicates with the packet network about transmitting the voice payload by using the SONET OC-3 port on the MGX 8000 series platform PXM card. Voice payload samples are formatted and sent across the MGX 8000 series platform cellbus and onto the SONET connection.

Transporting Voice Cells with Switched AAL2 PVC

The switched AAL2 PVC operating mode transports voice cells with up to 64 PVCs. Multiple calls can share a single AAL2 connection simultaneously using a CID. Each PVC is assigned a virtual connection circuit identifier (VCCI). The VCCI/CID to endpoint/DS1/DS0 binding is made dynamically by the call agent as part of the call setup procedure. However, you can permanently set the binding—which makes VISM operate as if it were in AAL2 trunking operating mode.

The AAL2 PVC supports AAL2 profiles and mid-call upspeeds. Codec changes can be supported if they are within the agreed upon profile. The following AAL2 profiles are supported:

- Custom profile 100
- Custom profile 101
- Custom profile 110
- ITU-T I.366.2 profile 1
- ITU-T I.366.2 profile 2
- ITU-T I.366.2 profile 7
- ITU-T I.366.2 profile 8

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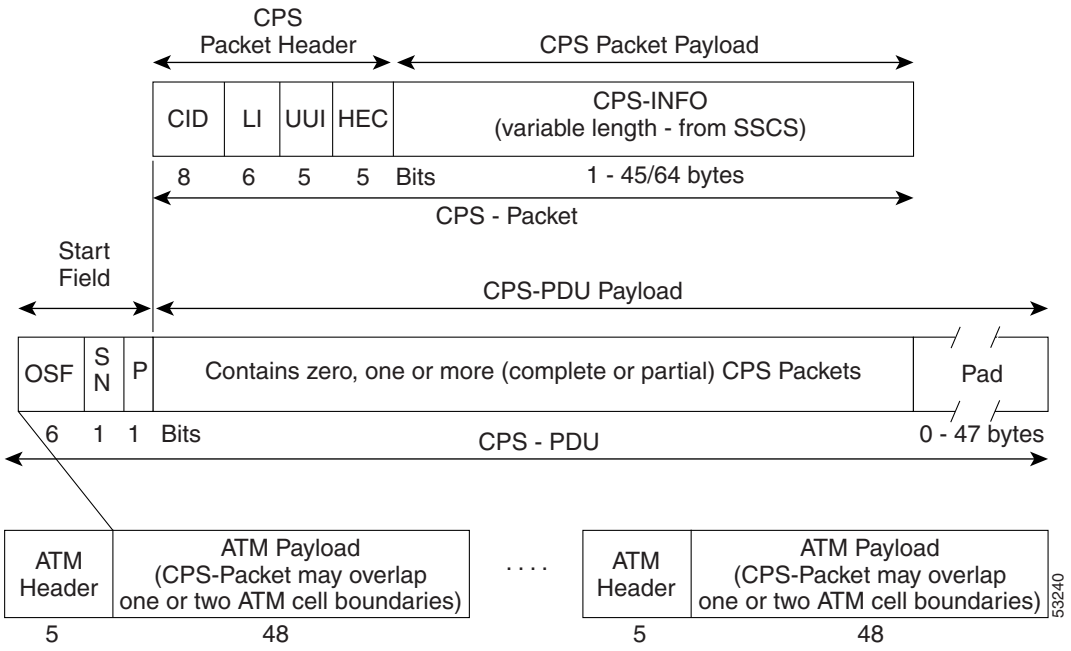
Figure 3-9 shows the packetization process for AAL2 cells.

Figure 3-9 AAL2 Cell Packetization and Transmission



Transporting Voice Cells with AAL2 Trunking

The AAL2 trunking operating mode transports voice cells with up to 64 AAL2 trunks. The CID/virtual channel identifier (VCI) for each DS1/DS0 pair is preprovisioned, which ensures that DS0 voice streams are automatically transported over the appropriate trunk.

For CAS applications, voice cells and CAS signaling are transported across the AAL2 trunk. If a channel is configured for CCS signaling, the signaling is transmitted by extracting HDLC frames and forwarding them over preprovisioned AAL5 virtual circuits (the voice cells are still transmitted using AAL2).

VISM does not support any call control functions with the AAL2 trunking operating mode. VISM passes signal traffic across the trunk.

Alarm and packetization handling are the same as in the switched AAL2 PVC operating mode. Refer to the "Transporting Voice Cells with Switched AAL2 PVC" section on page 3-13.

Transporting Voice Cells with Switched AAL1 SVC

VISM interacts with a call agent using an xGCP protocol over AAL5 control PVCs. In the switched AAL1 SVC operating mode, the bearer path is VoAAL1 and the bearer connections are SVCs. VISM dynamically sets up and tears down bearer connections.

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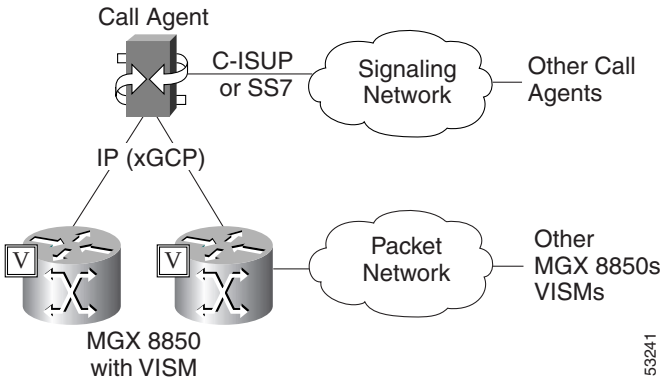
Call Control Function

Call control is used in the switched AAL2 PVC operating mode only and is managed by the call agents. The call agent performs the following functions:

- Analyzes signaling received from VISM cards and other call agents to monitor the status of all endpoints and connections.
- Signals VISM cards and other call agents to set up and tear down calls.
- Reacts to fax, modem, alarm and other line conditions and events.
- Maintains a dial plan to locate the remote call agent using the dialed number.
- Negotiates profiles and codecs between the called and calling locations.

These functions require call agent communication with the VISM cards under call agent control and peer call agents. Figure 3-10 shows the call agent communications links.

Figure 3-10 Call Agent Communications Links



The interface between the call agent and VISM cards is a gateway call control protocol generically known as xGCP. The following gateway call control protocols are supported:

- Media Gateway Control Protocol (MGCP) 0.1 and 1.0
- Simple Gateway Control Protocol (SGCP) 1.5
- Simple Resource Control Protocol (SRCP)

SRCP enables the VISM card and the call agent to resynchronize. Synchronization occurs when the call agent first assumes control of VISM or after the call agent loses communication with VISM.

All protocols use a UDP/IP connection between the call agent and the VISM cards. The IP address of the call agent can be resolved in the following ways:

- Internal table which you set up with the CLI
- External domain name server (DNS)

You can configure VISM to use the internal table and external DNS in the following ways:

- Internal table only
- External DNS only
- Internal first and external second
- External first and internal second

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VISM supports up to eleven domain names and each domain name can have up to eight internal and eight external IP addresses.

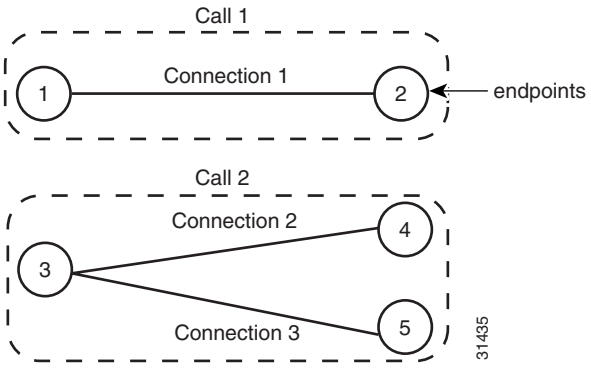
Note The external DNS can have up to eight internal IP addresses only.

The interface between the call agent and other call agents is either Signaling System 7 (SS7) or a Cisco extended ISDN User Part (C-ISUP).

Connection Model

SGCP and MGCP gateway call control protocols assume a connection model where the basic constructs are connections and endpoints. Figure 3-11 shows a basic connection model.

Figure 3-11 Connection Model



Connections are grouped into calls. One or more connections can belong to the same call. Several connections, that may or may not belong to the same call, can terminate in the same endpoint.

The SGCP consists of the following commands:

- Notification request—Used by the call agent. Requests the gateway to send notifications upon the occurrence of specified events in an endpoint.
- Notify Messages—Used by the gateway. Sends a list of observed events to the call agent.
- Create connection—Used by the call agent. Sets up a new connection at the gateway.
- Modify connection—Used by the call agent. Modifies a gateway's view of a connection.
- Delete connection—Used by the call agent. Terminates a connection.

The MGCP extends SGCP to include the following commands:

- Audit endpoint—Used by the call agent. Audits information related to a given endpoint.
- Audit connection—Used by the call agent. Audits information related to a given connection.
- Restart in progress —Used by the gateway (VISM). Signals that an endpoint (or a group of endpoints) is brought into or taken out of service.
- Audit gateway—Used by the call agent. Identifies the status of the gateway.
- Audit line—Used by the call agent. Identifies the status of a given line.

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xGCP Extensions for AAL2 Switched PVC and AAL2 SVC Operating Modes

VISM supports the following extensions to the xGCP protocols for AAL2 switched and AAL2 SVC applications:

- A new AAL2 Type 3 message type (coded '010001') for telephone signal events (TSEs). The following are TSEs:
  - ECAN off
  - Request audible ring tone
  - Ack continuity test
  - Request stop audible tone
  - Request continuity test
- An extended naming structure to include ATM endpoints. An ATM endpoint enables the following to be included in the definition of an endpoint:
  - ATM address
  - virtual path identifier (VPI)
  - VCI
  - VCCI
  - CID
- An extended list of connection events in MGCP, known as an ATM Package. These events are:
  - Setup complete (for AAL2 CID path)
  - Setup failed (for AAL2 CID path)
  - Enable CAS via type 3 packets
- Introduction of a Profile Type in call setup commands to describe encoding techniques.

Endpoint Service States

Endpoints exist in one of two service states—in-service (IS) and out-of-service (OOS). The state of an endpoint is determined by user configuration commands and line alarm conditions. When an endpoint is added, it automatically assumes the state of the line.

When endpoints are taken OOS, the transition can be graceful or forced. If graceful, no new connections are permitted while ongoing connections are allowed to terminate normally. If forced, no new connections are permitted and all ongoing connections are terminated immediately.

You can also bring an endpoint to the IS and OOS states with the following commands, which operate either on a line-by-line basis or on the entire VISM card:

- **cnflnis**—Configure a line as IS
- **cnflnoos**—Configure a line as OOS
- **cnfgwis**—Configure a VISM card as IS
- **cnfgwoos**—Configure a VISM card as OOS

These commands allow you to specify either a graceful or forced transition.

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If an alarm condition on a line is raised, all endpoints on the line are brought into a forced transition to OOS. An automatic return to IS is performed when the alarm is cleared, unless a specific OOS command is executed in the meantime.

Restart In Progress Command

The call agent is kept informed of the state of all endpoints with the xGCP Restart In Progress (RSIP) command. The following minimum requirements must be met for this process to operate:

- At least one call agent must be configured using the add media gateway controller (**addmgc**) command.
- A protocol must be added for each media gateway controller using the add media gateway group entry command (**addmgcgrpentry**) command.

The VISM card issues an RSIP command in the following situations:

- One or more endpoints are added or deleted with the following commands:
  - **addendpt**
  - **addendpts**
  - **delendpt**
  - **delendpts**
- A line is configured as IS or OOS with one of the following commands:
  - **cnflnis**
  - **cnflnoos**
- The VISM card (gateway) is configured as IS or OOS with one of the following commands:
  - **cnfgwis**
  - **cnfgwoos**
- The VISM card is powered up or reset.

Note In this case, the RSIP is delayed by a random amount (up to a configurable maximum duration) to avoid an avalanche of RSIPs arriving at the call agent when an entire MGX 8000 series platform with multiple VISM cards is powered up or reset.

When the states of multiple endpoints are changed simultaneously, the VISM card minimizes the number of RSIP commands through the use of the wildcard (*) convention of naming endpoints.

When an RSIP is sent to call agents, VISM expects an acknowledgment. If no acknowledgment is received after a timeout period, the RSIP is sent again. This process is repeated a number of times, after which, if no acknowledgment is received, an acknowledgment is assumed. You can configure both the timeout period and the number of retries with the **cnfxgcpretry** command.

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Connection Admission Control

The VISM connection admission control (CAC) feature calculates the effect of a new call on the bandwidth utilization of the ATM PVC before a new call is either admitted or rejected.

Each call requires a connection between two endpoints and requires a certain amount of bandwidth. Bandwidth is expressed as cells per second (cps) and depends upon the following:

- Encapsulation method
- Coding/compression method
- Enabled/disabled VAD

CAC maintains a table of all currently active calls and their bandwidth requirements. When a new call is requested, CAC calculates the total bandwidth requirements of all the current calls and adds the bandwidth required by the newly requested call. The new total is then compared with the preprovisioned bandwidth (cps) of the ATM PVC.

If the new bandwidth total exceeds the preprovisioned bandwidth of the PVC, the call request is rejected. If the new bandwidth total is less than or equal to the preprovisioned bandwidth of the PVC, the call is accepted.

You can specify the values of the following VAD parameters in the CAC algorithm:

- Over-subscription drop ratio
- Voice duty cycle

VAD parameter specification allows the CAC algorithm to take into account the bandwidth savings of VAD and improves the CAC decision-making process. You can specify the values of these parameters at the card level and at the logical channel level. The default condition is for CAC to be enabled.

Embedded VISM Management Function

VISM management tools allow you to do the following:

- Configure VISM features
- Provision connections
- Display VISM configurations
- Display VISM statistics

Use any of the following tools to manage and configure the VISM card:

- CLI—See Chapter 4, “Configuring VISM Features,” for a description of how to configure VISM using the CLI. See Chapter 5, “CLI Commands,” for a description of the syntax for each CLI command.
- Third-party Simple Network Management Protocol (SNMP) manager—Permits you to display and manipulate the individual MIB objects.
- Cisco WAN Manager (CWM) program—Provides a graphics-based interface on a UNIX workstation.

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Figure 3-12 shows an example of a CWM VISM Card Config screen with the card elements displayed.

Figure 3-12 VISM Card Config Screen—Card Elements Display

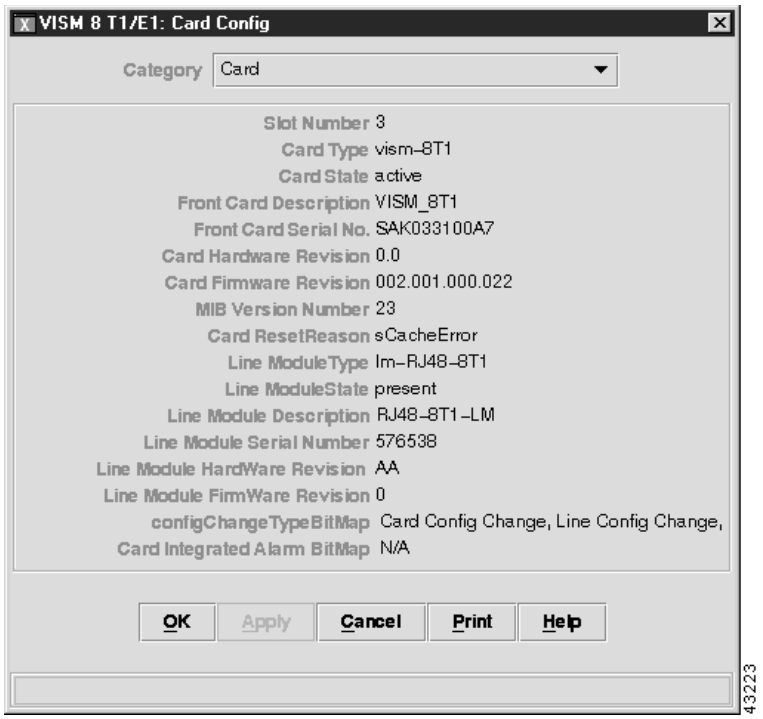

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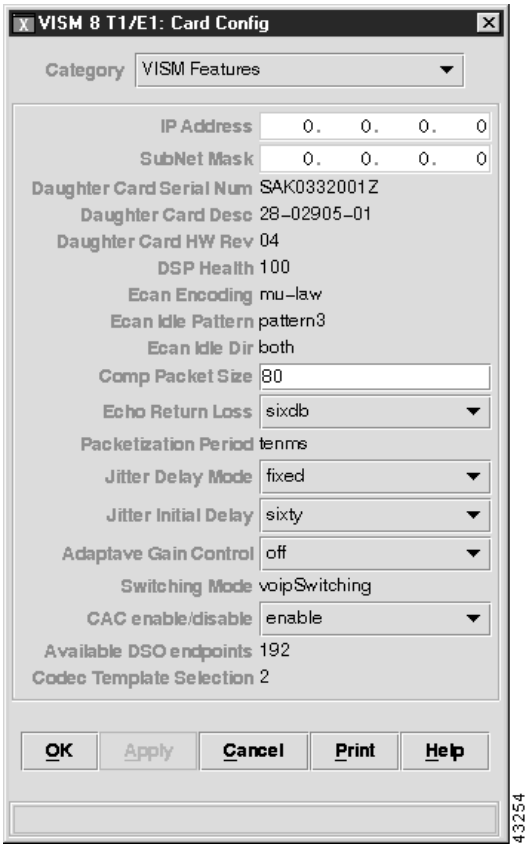
Figure 3-13 shows an example of a CWM VISM Card Config screen with the VISM features displayed.

Figure 3-13 VISM Card Config Screen—VISM Features Display



Refer to the *WAN CiscoView for the MGX 8250* for more information on using CWM.

All three VISM management tools allow you to access and manipulate the VISM Management Information Bases (MIBs) that contain all VISM configuration settings, operating modes, and statistics.

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CHAPTER 4

Configuring VISM Features

The command line interface (CLI) is a DOS-like interface used to configure VISM cards. This chapter describes the following:

- "Using the Command Line Interface" section on page 4-1
- "Connecting to Cisco MGX 8000 Series Platforms" section on page 4-2
- "Configuring VISM Features" section on page 4-6

Using the Command Line Interface

CLI commands may be followed by a string of required or optional argument identifiers and argument values. The entire string, from the command to the last argument value, is referred to as a command line. Spaces are used to separate all elements in a command line. Type the command, any necessary argument identifiers and argument values, then press **Enter**.

Note You must press the **Enter** key at the end of all CLI command lines to complete the command.

For example, the Add Endpoint command, **addendpt**, adds an endpoint to VISM and has three required arguments. An endpoint defines one end of a connection. The **addendpt** command format is as follows:

addendpt *endpt-num ds1-num ds0-num*

When you type a command, use argument values to represent the arguments. For example, to add an endpoint with number 10 on DS1 number 4 and DS0 number 3, the command line is as follows:

addendpt 10 4 3

Some commands require you to type an argument identifier before the argument value. For example, the Clear Alarm command, **clralm**, requires you to enter an identifier, **-ds1**, before the argument value. The **clralm** command format is as follows:

clralm -ds1 *line-num*

To clear alarms on line 4, the command line is as follows:

clralm -ds1 4

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VISM Command Attributes

Use the information in Table 4-1 to determine the log file attributes, VISM card state requirements for command use, and personnel privileges for all VISM commands.

Table 4-1 VISM Command Attributes—Log File, Card State, and Privilege Level

Commands that begin with...	...write to the log file?	...are usable in what state?	...can be used by personnel with what privilege level?
?[1]	No	All	All
add	Yes	Active	1
cc[1]	Yes	All	All
chkflash[1]	Yes	Active	1
clr	No	Active	1 to 5
cnf	Yes	Active	1
del	Yes	Active	1
dsp	No	Active	All
Help[1]	No	All	All
pinglndsp[1]	No	Active	All
tst	No	Active	All
version[1]	No	Active	All

1. The text shown represents the complete CLI command name.

Note For a complete description of the CLI commands in this chapter, see Chapter 5, "CLI Commands."

Connecting to Cisco MGX 8000 Series Platforms

The VISM card operates in the following MGX 8000 Series platforms:

- Cisco MGX 8850 Release 1, wide area switch
- Cisco MGX 8250, edge concentrator
- Cisco MGX 8230, edge concentrator

Each platform contains a Processor Module (PXM) back card (see Figure 4-1). Connect your CLI command administration terminal or workstation to the PXM back card's control port—locally or remotely through a modem.

Note The MGX 8000 Series platform PXM back card contains all connections for managing VISM cards. The VISM card itself has no physical management ports.

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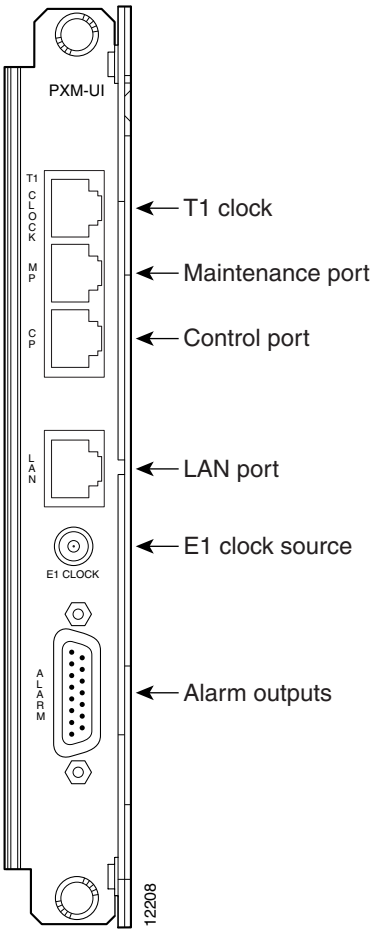
Figure 4-1 PXM Back Card



Use any of the following devices to connect to a PXM back card:

- A simple alphanumeric terminal (such as a DEC VT100 or equivalent) connected to the control port of the MGX 8000 Series platform PXM back card.
- A computer emulating an alphanumeric terminal (such as the Microsoft Windows Hyper Terminal program) connected to the control port of the MGX 8000 Series platform PXM back card.
- A computer running a Telnet session over Ethernet and connected to the LAN port on the MGX 8000 Series platform PXM back card.

Logging In to PXM and VISM Cards

Complete the following steps to log in to PXM and VISM cards:

Step 1 Physically connect your terminal or workstation to the PXM back card.

The login prompt is displayed:

```
Login:
```

Step 2 Type your user name and press **Enter**.

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Note The default user name is **cisco**. You may change this username after your initial login is complete. Consult the system administrator for valid user names.

The password prompt is displayed:

```
password:
```

Step 3 Type your password and press **Enter**.

For security, the password is displayed as asterisks:

```
password: *****
```

Note The default password is **cisco**. You may change this password after your initial login is complete. Consult the system administrator for valid passwords.

The following prompt is displayed:

```
card number [7]:
```

Step 4 If you know the VISM card slot number of the card you want to configure, proceed to Step 5. If you do not know the VISM card slot number of the card you want to configure, proceed to Step 6.

Step 5 Type the VISM card slot number and press **Enter**.

The VISM card prompt is displayed. See the "VISM Card Prompt" section on page 4-5 for more information. You have completed logging in to the PXM and VISM cards and can now perform the mandatory initial VISM card configuration. Proceed to the "Initial VISM Configuration" section on page 4-6.

Step 6 Type the slot number of the active PXM card (either **7** or **8**) and press **Enter**.

The PXM card prompt is displayed:

```
NODENAME.1.7.PXM.a >
```

Step 7 Type the **dspcds** command to display available card types and press **Enter**.

A list of available card types and associated states is displayed for the MGX 8000 Series platform with which you are connected. The display is similar to the following:

```
NODENAME.1.7.PXM.a > dspcds

Slot CardState    CardType     CardAlarm   Redundancy
---- -----------  --------     ---------   -----------
1.1   Empty                    Clear
1.2   Active       VISM-8T1    Clear
1.3   Empty                    Clear
1.4   Empty                    Clear
1.5   Empty                    Clear
1.6   Empty                    Clear
1.7   Active       PXM1-OC3    Minor
1.8   Empty                    Clear
1.9   Active       VISM-8E1    Clear
1.10  Empty                    Clear
1.11  Active       VISM-8T1    Clear
1.12  Boot         VISM-8T1    Clear
1.13  Active       VISM-8T1    Clear
1.14  Active       VISM-8E1    Clear
1.15  Empty                    Clear
1.16  Empty                    Clear
```


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```
1.17  Empty                    Clear
1.18  Empty                    Clear
1.19  Empty                    Clear
1.20  Empty                    Clear
1.21  Boot         VISM-8T1    Clear
1.22  Empty                    Clear
1.25  Reserved     VISM-8E1    Clear
1.26  Empty                    Clear
1.27  Empty                    Clear
1.28  Active       VISM-8E1    Clear
1.29  Empty                    Clear
1.30  Empty                    Clear
1.31  Empty                    Clear
1.32  Empty                    Clear
NODENAME.1.7.PXM.a >
```

Step 8 Identify, from the list displayed in Step 7, the slot number of the VISM card you want to configure.

Step 9 Type the **cc** command (to change card), the VISM card slot number identified in Step 8, and press **Enter**.

The VISM card prompt is displayed. See the "VISM Card Prompt" section on page 4-5 for more information.

You have completed logging in to the PXM and VISM cards and can now perform the mandatory initial VISM card configuration. Proceed to the "Initial VISM Configuration" section on page 4-6.

VISM Card Prompt

The VISM card prompt is displayed when you successfully log in to a VISM card and has the following format:

```
NODENAME.1.9.VISM8.a
```

The VISM card prompt contains the following data:

- Name of the MGX 8000 Series platform to which you are connected
- Number of the shelf—always 1
- Slot number
- Card type
- Card state—active (a) or standby (s)

Logging Out of VISM and PXM Cards

Enter one of the following commands to log out of the VISM and PXM cards:

- **bye**
- **logout**

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Configuring VISM Features

The CLI allows you to configure all features and functions of VISM. Configure mandatory commands when you require argument values that are different from the default. Configure optional commands when necessary.

Perform the following tasks with CLI commands to enable your VISM card applications:

1. Perform the mandatory initial VISM configuration.
2. Perform the initial card-level configuration.
3. Configure the TDM side.
4. Configure bearer processing.

Note Configure one type of signaling—CAS or CCS—for each application.

5. Configure the ATM network side.
6. Configure the call agent interface.

Note If you are using a VoIP or an AAL2 trunking application, do not configure a call agent interface.

Initial VISM Configuration

You must execute a sequence of mandatory commands, specific to your operating mode, to make the VISM card fully operational. The mandatory commands for each operating mode are listed in Table 4-2 in order of execution. The remainder of this chapter assists you with using these commands, and commands specific to your operating system.

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Table 4-2 Mandatory Initial VISM Configuration Command Sequence for All Operating Modes

Operating Mode	Command	Notes
VoIP Switching	**cnfvismmode**[1]	—
	cnfvismip	—
	addport	—
	addrscprtn	—
	adddn	—
	adddnip	Use this command if you are not using an external DNS.
	addmgc	—
	addmgcgrpentry	—
	cnfcac	—
	addln	—
	cnflnsig	—
	addendpt	—
	addcon	—
	cnftftpdn	—
	addcasvar	—
	cnfcasendpt	—
	addmgcgrpprotocol	—
	cnfdnssrvr	Use this command if you are using an external DNS.
Switched AAL2 PVC	**cnfvismmode**[1]	—
	cnfvismip	—
	addport	—
	addrscprtn	—
	addmgc	—
	cnfcac	—
	addln	—
	cnflnsig	—
	addendpt	—
	addcon	—
	adddn	—
	cnftftpdn	—
	addcasvar	—
	cnfcasendpt	—
	cnfconvcci	—

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Table 4-2 Mandatory Initial VISM Configuration Command Sequence for All Operating Modes (continued)

Operating Mode	Command	Notes
AAL2 Trunking	**cnfvismmode**[1]	—
	addport	—
	addrscprtn	—
	cnfcac	—
	addln	—
	cnflnsig	—
	addendpt	—
	addcon	—
	addcid	—
	addccs	—

1. The **cnfvismmode** command may be mandatory or optional, depending upon the operating mode with which the VISM card is seen as displayed on your terminal. A VISM card that is not configured is initially displayed in the VoIP operating mode. Subsequent accesses to the VISM card result in the card being displayed in the VoIP operating mode or in the operating mode you have last configured for the card. If the card is displayed as being in the wrong operating mode, the **cnfvismmode** command is mandatory to change the operating mode. Use the **dspvismparam** command to verify the VISM card's current operating mode.

Initial Card Level Configuration

You must complete the following configuration tasks when you initially configure your VISM card.

1. Configure the operating mode.
2. Allocate resources.
3. Configure the connection admission control (CAC).
4. Bring VISM into service.

Configuring the Operating Mode

Complete the following steps to configure the correct operating mode for your VISM card immediately after power is applied:

Step 1 Type the **dspvismparam** command and press **Enter** to determine the current VISM operating mode.

Note A new VISM card (one that has not been configured) is displayed by default in VoIP operating mode.

The operating mode of the VISM card is displayed in the first line of the VISM card parameter list.

Step 2 If the VISM card operating mode displayed in Step 1 is correct for your application, proceed to the "Allocating Resources" section on page 4-9. If the VISM card operating mode displayed in Step 1 is not correct for your application, proceed to Step 3.

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Step 3 Type the **cnfvismmode** command, an *oper-mode* argument value, and press **Enter** to configure the VISM operating mode. Specify the *oper-mode* argument with one of the following values:

- 1 = VoIP switching/VoIP trunking
- 2 = AAL2 trunking
- 3 = Switched AAL1 SVC
- 7 = Switched AAL2 SVC
- 8 = Switched AAL2 PVC—this mode is not supported in VISM Release 3.0
- 9 = VoIP and Switched ATM AAL1 SVC

You have completed configuring the operating mode for your VISM card. Proceed to the "Allocating Resources" section on page 4-9.

Allocating Resources

Complete the following steps to allocate resources—virtual ports, controller resources, and codec templates—to your VISM card.

Step 1 Type the **addport** command and press **Enter** to add a virtual port to your VISM card.

This command adds an ATM port on a VISM. There are no arguments for this command. When you add the ATM port, the bandwidth, VPI range, and VCI range are determined. The VPI range is a single VPI value, the slot ID. The added port is not detected by the controller until you create a resource partition (refer to Step 2). The VISM ATM port is pseudo physical.

Step 2 Type the **addrscprtn** command, the *control-id* argument value **1**, and press **Enter** to specify the controller resources.

Note Always specify the *control-id* argument value as 1.

A port can be controlled by more than one controller (for example PNNI and PAR), but supports only one controller at a time. VISM can create one resource partition for each controller in a non-overlapping way. The controller number you specify associates a resource partition to a controller. All resources of a port are associated with the resource partition you specify. When you add a resource partition, the associated controller detects the port as limited by the resource partition.

Step 3 Type the **cnfcodectmpl** command, a *template-num* argument value, and press **Enter** to specify the codec template used with your VISM card. Specify the *template-num* argument with one of the following values:

- 1 = G.711u, G.711a, G.726-16K, G.726-24K, G.726-32K, G.726-40K, G.729a, and G.729ab codecs, and clear channel

  Note Template 1 is not supported for the VoIP operating mode.

- 2 = G.711u and G.711a uncompressed codecs, and clear channel

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- 3 = G.711u, G.711a, G.726-16k, G.726-24k, G.726-32k, G.726-40k, G.729a, and G.729ab codecs and clear channel

Note Codec template number 3 = template number 1 with T.38 support added. Maximum channels = 120.

- 4 = G.711u, G.711a, G. 726-16k, G.726-24k, G.726-32k, G.726-40k, G.729a, G.729ab, G.723.1-H, G.723.1a-H, G.723.1-L, G.723.1a-L codecs and clear channel

Note Template 4 supports a maximum of 64 channels for VISM, and a maximum of 144 channels for VISM-PR. The G.723.1 codecs are not supported for the VISM card.

You have completed allocating resources to your VISM card. Proceed to the "Configuring Connection Admission Control" section on page 4-10.

Configuring Connection Admission Control

Complete the following steps, which allow you to:

- Enable or disable CAC.
- Define CAC parameters.
- Configure voiceband data policies for fax/modem carrier loss and fax/modem CAC failure events.

Step 1 Type the **cnfcac** command, a *cac-enable* argument value, and press **Enter** to enable or disable CAC on your VISM card. Specify the argument with one of the following values:

- 1 = On
- 2 = Off

Note If your application does not require CAC, specify the *cac-enable* argument as value **2** in Step 1 and proceed to the "Placing the VISM Card In Service" section on page 4-11.

Step 2 Type the **cnfcacparams** command, *vad-duty-cycle* and *vad-tol* argument values, and press **Enter** to configure card level CAC parameter values for VAD tolerance and duty cycle, which are used in CAC algorithms. Specify the arguments with the following values:

- *vad-duty-cycle*: In the range from 1 to 99 (default = 61)
- *vad-tol*: In the range from 0 to 10000 (default = 100)

Step 3 Type the **cnfconcacparams** command, *lcn*, *vad-tol*, and v*ad-duty-cycle* argument values, and press **Enter** to configure values for VAD tolerance and duty cycle, which are used in the CAC algorithms, for a specified logical connection number (PVC). Specify the arguments with the following values:

- *lcn*: In the range from 131 to 510
- *vad-tol*: In the range from 1 to 10000 (default = 100)
- *vad-duty-cycle*: In the range from 1 to 99 (default = 61)

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Step 4 Type the **cnfvbdpol** command, *carrier-loss-pol* and *cac-reject-pol* argument values, and press **Enter** to specify card level default policies for a fax/modem carrier loss and a fax/modem CAC failure. Specify the arguments with the following values:

- *carrier-loss-pol*:
  - 1 = Revert to the previous codec.
  - 2 = Maintain the upspeed codec.
- *cac-reject-pol*:
  - 1 = Delete the connection.
  - 2 = Maintain the connection and revert to the previous codec.

You have completed configuring CAC on your VISM card. Proceed to the "Placing the VISM Card In Service" section on page 4-11.

Placing the VISM Card In Service

Type the **cnfgwis** command and press **Enter** to place the VISM card in service. The VISM card prompt terminates with an *a* to indicate the in-service state:

```
NODENAME.1.9.VISM8.a
```

Placing the VISM Card Out of Service

Type the **cnfgwoos** command, a *oos-method* argument value, and press **Enter** to place the VISM card out of service. Specify the *oos-method* argument with one of the following values:

- 2—Forceful
- 3—Graceful

The VISM card prompt terminates with an *s* to indicate the out-of-service (standby) state:

```
NODENAME.1.9.VISM8.s
```

Configuring the TDM Side

You must perform the following tasks to configure the TDM side of your networking application:

1. Configure T1 and E1 lines.
2. Configure VISM card clocking.
3. Configure DS0 channels.

Configuring T1 and E1 Lines

This section deals with the configuration of the eight physical T1/E1 ports on the VISM back card or, if bulk distribution is used, the equivalent ports being fed from the Service Resource Module (SRM) card.

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Complete the following steps to:

- Add and configure your eight T1 or E1 line ports on the VISM back card.
- Add and configure your eight T1 and E1 line ports on the SRM card if your application requires bulk distribution.

Note You can configure the DS0s on a line after a line is added and configured.

Step 1 Type the **addln** command, a *line-num* argument value, and press **Enter** to add a line to your VISM card. Specify the *line-num* argument value in the range 1 to 8.

The VISM card prompt and line number are displayed.

Step 2 Type the **cnfln** command, *line-num*, *line-code*, *line-length*, *clock-source*, *line-type*, and *loopback-detection* argument values, and press **Enter** to specify the operating parameters for the line added in Step 1. Specify the arguments with the following values:

- *line-num*: In the range from 1 to 8
- *line-code*:
  - 2 = B8ZS for T1 lines
  - 3 = HDB3 for E1 lines
  - 4 = AMI for T1 or E1 lines
- *line-length*:
  - 8 = AX-SMB-8E1 and AX-R-SMB-8E1 back card types
  - 9 = AX-RJ48-8E1 and AX-R-RJ48-8E1 back card types
  - 10 to 15 = T1 back cards, where 10 = 0 to 131 ft, 11 = 131 to 162 ft, 12 = 262 to 393 ft, 13 = 393 to 524 ft, 14 = 524 to 655 ft, and 15 = over 655 ft
- *clock-source*:
  - 1 = Loop clock
  - 2 = Local clock
- *line-type*:
  - 1 = DSx1ESF
  - 2 = DSx1D4
  - 3 = E1
  - 4 = E1CRC
  - 5 = E1MF
  - 6 = E1MFCRC
  - 7 = E1 Clear
  - 8 =
  - 9 =
- *loopback-detection*:
  - 1 = Disabled
  - 2 = Enabled

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Step 3 Type the **cnfalm** command, argument identifiers and argument values—**-ds1** *line-num* **-red** *red-sev* **-rai** *rai-sev* **-neu** *ne-alarm-up* **-ned** *ne-alarm-down* **-net** *ne-alarm-thresh* **-feu** *fe-alarm-up* **-fed** *fe-alarm-down* **-fet** *fe-alarm-thresh*—and press **Enter** to configure a line for alarm condition handling. Specify the arguments with the following values:

- **-ds1** *line-num*: In the range from 1 to 8
- **-red** *red-sev*:
  - 1 = Minor
  - 2 = Major
- **-rai** *rai-sev*:
  - 1 = Minor
  - 2 = Major
- **-neu** *ne-alarm-up*: In the range from 1 to 65535
- **-ned** *ne-alarm-down*: In the range from 1 to 65535
- **-net** *ne-alarm-thresh*: In the range from 1 to 65535
- **-feu** *fe-alarm-up*: In the range from 1 to 65535
- **-fed** *fe-alarm-down*: In the range from 1 to 65535
- **-fet** *fe-alarm-thresh*: In the range from 1 to 65535

Step 4 Type the **cnflnsig** command, *line-num* and *line-signal-type* argument values, and press **Enter** to configure the signaling mode for the specified line. Specify the *line-num* and *line-signal-type* arguments with the following values:

- *line-num*: In the range from 1 to 8
- *line-signal-type*:
  - 1 = CAS
  - 2 = CCS
  - 3 = No signaling

Note If you choose CAS signaling for a VISM/VISM-PR E1 line, the supported operating modes are AAL2 trunking and VoIP trunking.

Step 5 Type the **cnftrunkcond** command, *line-num* and *trunk-cond-enable* argument values, and press **Enter** to enable or disable trunk line conditioning on a line. Specify the arguments with the following values:

- *line-num*: In the range from 1 to 8
- *trunk-cond-enable*:
  - 1 = On
  - 2 = Off

If you enable trunk line conditioning, VISM conditions the affected DS0 when an alarm indication signal (AIS) is detected on the ATM side. Trunk line conditioning consists of transmitting an idle code pattern for 2.5 seconds followed by the seized code specified in the **cnfcascode** command.

Note This command is not allowed if endpoints or CCS channels are enabled on the line.

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Step 6 Type the **addlnloop** command, a *line-num* argument value, and press **Enter** to set a specified line to the local loopback state. Specify the *line-num* argument in the range from 1 to 8.

Use the **dellnloop** command to remove the local loopback state on a VISM line.

Note The VISM CLI has no command for setting a line to the remote loopback state. Use the **cnfbert** command on the PXM card to set a line to the remote loopback state.

You have completed configuring T1 and E1 lines for your VISM card. Proceed to the "Placing T1 and E1 Lines In Service" section on page 4-14.

Placing T1 and E1 Lines In Service

Type the **cnflnis** command, a *line-num* argument value, and press **Enter** to place a T1 or E1 line in service. Specify the *line-num* argument in the range from 1 to 8.

Note If the VISM card is rebooted, this information configuration using this command is lost.

Placing T1 and E1 Lines Out of Service

Type the **cnflnoos** command, *line-num* and *oos-method* argument values, and press **Enter** to place a T1 or E1 line out of service. Specify the arguments with the following values:

- *line-num*: In the range from 1 to 8
- *oos-method*:
  - 2 = Forceful
  - 3 = Graceful

Configuring the PXM and VISM Cards Clocking Source

Complete the following steps to configure the clocking source on your PXM and VISM cards.

Note Refer to Appendix A, "VISM and VISM-PR Card Clocking Options," and the "Expanded Clock Source Selection" section on page 4-69 for additional instructions on using the commands and specifying argument values to configure the clocking source on your PXM and VISM cards.

Step 1 Examine the entire configuration of the MGX 8000 Series platform to determine the single clock source.

The type of equipment connected to the VISM T1 or E1 lines may dictate this choice. If the selected clock source is from one of the VISM T1 or E1 lines, that line must be connected to port 1 of the VISM back card. See Figure 1-3 on page 1-4 for more information on VISM back cards and port locations.

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Step 2 Type the **cnfclksrc** command, *slot-num*.*port-num*, and *clk-type* argument values, and press **Enter** to configure the PXM card clock source. Specify the arguments with the following values:

- *slot-num*.*port-num*:
  - *slot-num* = 7 or 8, *port-num* = 1 to n.

Note Ensure that you type the period with no spaces on either side, between the *slot-num* argument value and the *port-num* argument value.

- *clk-type* argument values:
  - P = Primary
  - S = Secondary
  - N = Null (no external clocking source; use the PXM card's internal crystal)

Specify the **cnfclksrc** command argument values according to the following rules:

- If the clock source is the external BITS clock (a T1 or E1 port on the PXM back card), specify the configuration as:

```
cnfclksrc 7.35 P
```

Note Type **7** for the slot number regardless of the PXM card's location in the chassis. Type **35** for the port number—the BITS port is always port 35.

- If the clock source is an external signal on one of the PXM OC3 ports, specify the configuration as:

```
cnfclksrc 7.n P
```

Note Type **7** for the slot number regardless of the PXM card's location in the chassis. The *n* port parameter value is the OC3 port number in the range 1 to 4.

- If the clock source is the PXM's internal crystal and no other clock source has been specified, do not configure the clock source. The crystal is the automatic default.
- If you want to change the clocking source from external to the PXM card's internal crystal, specify the configuration as:

```
cnfclksrc 7.X N
```

Note Type **7** for the slot number regardless of the PXM card's location in the chassis. The X argument value is the either 35 or the OC3 port number, depending upon which is the currently specified source. The null port number argument value cancels the previous configuration and returns the clocking source to the default internal crystal.

- If the clock source is from a line on a VISM card, specify the configuration as:

```
cnfclksrc y.1 P
```


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Note The *y* argument value is the actual slot number of the VISM card. Always type **1** for port argument value, which represents the line number in this configuration. VISM-PR cards do not have this requirement.

Step 3 Type the **cnfln** command, the *line-num*, *line-code*, *line-length*, *clock-source*, *line-type*, and *loop-detection* argument values, and press **Enter** to configure the clocking option defined in Step 2 on your VISM card. Specify the arguments with the following values:

- *line-num*: In the range from 1 to 8
- *line-code*:
  - 2 = B8ZS for T1
  - 3 = HDB3 for E1
  - 4 = AMI for T1 or E1
- *line-length*:
  - 8 = E1 lines with AX-SMB-8E1 and AX-R-SMB-8E1 back card types
  - 9 = E1 lines with AX-RJ48-8E1 and AX-R-RJ48-8E1 back card types
  - In the range from 10 to 15 = T1 lines
- *clock-source*:
  - 1 = Loop clock—clocking from the T1 or E1 line

Note If the clocking source is from a line on your VISM card, you must configure that line—which must be line 1—as loop clock. Configure all remaining lines on all remaining VISM cards as local.

  - 2 = Local—clocking from the PXM card

Note You must configure all lines on all VISM cards as local if the clocking source to the VISM cards is from the PXM card.

- *line-type*:
  - 1 = DSx1ESF
  - 2 = DSx1D4
  - 3 = E1
  - 4 = E1CRC
  - 5 = E1MF
  - 6 = E1MFCRC
  - 7 = E1 clear
- *loop-detection*:
  - 1 = Disabled
  - 2 = Enabled

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Note You must include all argument values when using the **cnfln** command; however, the *line-num* and *clock-source* are the only relevant arguments for configuring the clocking source on your VISM cards.

You have completed configuring the clocking source for your PXM and VISM cards. Proceed to the "Configuring DS0 Channels" section on page 4-17.

Configuring the PXM1E or PXM45 Card as Clocking Source

Use the **cnfncdpclksrc** command to configure the PXM1E or PXM45 card as the primary clock source.

Use the following commands to display and verify your configuration:

- **dspncdpclkinfo**
- **dspncdpclksrc**

Refer to the "Related Documentation" section on page xiv for the appropriate document to use the commands in this section.

Configuring DS0 Channels

You are now ready to configure the 24 (T1) or 31 (E1) DS0 channels on the VISM card's T1 or E1 lines. Table 4-3 describes the VISM/VISM-PR DS0 density when the cards are used in combination with the supported codecs.

Table 4-3 VISM/VISM-PR DS0 Density with Codec Support

	VISM		VISM-PR	
Codec	**T1**	**E1**	**T1**	**E1**
G.711	192	248	192	248
G.723	—	—	144	144
G.726	145	145	192	248
G.729	145	145	192	248

You must complete the following tasks to configure a DS0 channel:

1. Add and configure DS1 line and DS0 endpoints.
2. Configure CCS or CAS signaling.

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Add and Configure DS1 Lines and DS0 Endpoints

Complete the following steps to add and configure a DS1 line and DS0 endpoints:

Step 1 Type the **addendpt** command, *endpt-num*, *ds1-num*, and *ds0-num* argument values, and press **Enter** to add a DS1 line and a DS0 endpoint. This step ensures that a call with a specified endpoint is tied to a specific line and channel. Specify the arguments with the following values.

Note If you choose CAS signaling for a VISM/VISM-PR E1 line, the supported operating modes are AAL2 trunking and VoIP trunking.

- *endpt-num*:
  - For template number 1:

    For VISM, in the range from 1 to 145

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248
  - For template number 2:

    For VISM T1, in the range from 1 to 192

    For VISM E1, in the range from 1 to 248
  - For template number 3:

    For VISM, in the range from 1 to 120

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248
  - For template number 4:

    For VISM-PR, in the range from 1 to 144
- *ds1-num*: The physical line number in the range 1 to 8
- *ds0-num*:
  - For T1 lines, from 1 to 24
  - For non-CAS E1 lines, from 1 to 31
  - For CAS E1 lines, from 1 to 15 and 17 to 31

Note You must specify DS0 16 for E1 lines if your application requires CAS signaling.

Step 2 Type the **addendpts** command, *start-endpt*, *start-line-num*, *start-ds0-num*, and *endpt-quantity* argument values, and press **Enter** to add a number of endpoints in one command. Specify the arguments with the following values:

- *start-endpt*:
  - For template number 1:

    For VISM, in the range from 1 to 145

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248

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  - For template number 2:

    For VISM T1, in the range from 1 to 192

    For VISM E1, in the range from 1 to 248
  - For template number 3:

    For VISM, in the range from 1 to 120

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248
  - For template number 4:

    For VISM-PR, in the range from 1 to 144
- *start-line-num* (DS1 line): In the range from 1 to 8
- *start-ds0-num* (DS0 channel):
  - For T1 lines, from 1 to 24
  - For non-CAS E1 lines, from 1 to 31
  - For CAS E1 lines, from 1 to 15 and 17 to 31
- *endpt-quantity*:
  - For template number 1:

    For VISM, in the range from 1 to 145

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248
  - For template number 2:

    For VISM T1, in the range from 1 to 192

    For VISM E1, in the range from 1 to 248
  - For template number 3:

    For VISM, in the range from 1 to 120

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248
  - For template number 4:

    For VISM-PR, in the range from 1 to 144

Step 3 Type the **addendptloop** command, an *endpt-num* argument value, and press **Enter** to place a specific endpoint—and so a specific DS1/DS0—into the loopback state in the TDM direction. Specify the *endpt-num* argument value from the following ranges:

- For template number 1:
  - For VISM, in the range from 1 to 145
  - For VISM-PR T1, in the range from 1 to 192
  - For VISM-PR E1, in the range from 1 to 248
- For template number 2:
  - For VISM T1, in the range from 1 to 192
  - For VISM E1, in the range from 1 to 248

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- For template number 3:
  - For VISM, in the range from 1 to 120
  - For VISM-PR T1, in the range from 1 to 192
  - For VISM-PR E1, in the range from 1 to 248
- For template number 4:
  - For VISM-PR, in the range from 1 to 144

Step 4 Type the **cnfds0loop** command, *line-num*, *ds0-num*, and *loopback-type* argument values, and press **Enter** to place a specific DS1/DS0 into one of three loopback states. Specify the arguments with the following values:

- *line-num*: In the range from 1 to 8
- *ds0-num*:
  - In the range from 1 to 31 for E1 lines
  - In the range from 1 to 24 for T1 lines
- *loopback-type*:
  - 1 = No loopback
  - 2 = Remote loopback
  - 3 = Local loopback

You have completed adding and configuring a DS1 line and DS0 endpoints. Proceed to one of the following sections:

- "Configuring TDM Side Signaling for Applications Using CCS" section on page 4-20.
- "Configuring TDM Side Signaling for Applications Using CAS" section on page 4-23.

Configuring TDM Side Signaling for Applications Using CCS

Note If your application requires CAS signaling, proceed to the "Configuring TDM Side Signaling for Applications Using CAS" section on page 4-23.

CCS signaling uses a dedicated channel on a DS1 line to carry the signaling for the other channels on the line. You must identify the signaling channel to the VISM card. CCS signaling is used for the following operating modes:

- VoIP trunking.
- AAL2 trunking—Signaling is transported across the trunk as Q.931 messages in ATM cells using AAL5.
- Switched AAL2 PVC—Signaling is backhauled to the call agent using Q.921 frames on the TDM side and RUDP/UDP/IP/Q.2931 on the call agent side.

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Complete the following steps to add and configure CCS signaling:

Step 1 Type the **addccs** command, *line-num*, *ds0-num*, and *lcn* argument values, and press **Enter** to add a CCS channel to your VISM card. Specify the arguments with the following values:

- *line-num*: In the range from 1 to 8
- *ds0-num*:
  - In the range from 1 to 24 for T1
  - In the range from 1 to 31 for E1
- *lcn*: In the range from 131 to 510

Step 2 If you are configuring CCS for the AAL2 trunking operating mode, the CCS configuration is complete. Proceed to the "Configuring Bearer Processing" section on page 4-27. If you are configuring CCS for the VoIP switching operating mode, you must create a Q.921 link access protocol for the D channel (LAPD) link for the channel and specify its argument values. Proceed to Step 3.

Step 3 Type the **addlapd** command, *line-num*, *ds0-num*, |*lapd-side*| and |*lapd-app-type*| argument values, and press **Enter** to add an ISDN PRI channel on a DS1/DS0.

Specify the arguments with the following values:

- *line-num*: Type the value used in Step 1.
- *ds0-num*: Type the value used in Step 1.
- |*lapd-side*|:
  - 1 = Network (default)
  - 2 = User
- |*lapd-app-type*|:
  - 1 = PRI (default)
  - 2 = GR-303 (currently unsupported)

Step 4 Type the **cnflapdtype** command, *line-num*, *ds0-num*, and *lapd-type* argument values, and press **Enter** to specify the LAPD stack type. Specify the arguments with the following values:

- *line-num*: Type the value used in Step 1.
- *ds0-num*: Type the value used in Step 1.
- *lapd-type*:
  - 1 = ITU
  - 3 = ATT5ESSPRA
  - 4 = ATT4ESS
  - 6 = NTDMS100PRA
  - 7 = VN2 or 3
  - 8 = INSNet
  - 9 = TR6MPC
  - 10 = TR6PBX
  - 12 = AUSP
  - 13 = NIL
  - 14 = SSETSI

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  - 15 = BC303TMC
  - 16 = BC303CSC
  - 17 = NTDMS250
  - 18 = Bellcore
  - 19 = NI2

Step 5 Type the **cnflapdwinsize** command, *line-num*, *ds0-num*, and *iframe-num* argument values, and press **Enter** to specify the LAPD window size. The *iframe-num* value is the maximum number of outstanding I-frames that can be accumulated before sending an acknowledgment. Specify the arguments with the following values:

- *line-num*: Type the value used in Step 1.
- *ds0-num*: Type the value used in Step 1.
- *iframe-num*: In the range from 1 to 127

Step 6 Type the **cnflapdretrans** command, *line-num*, *ds0-num*, and *n200* argument values, and press **Enter** to specify the maximum allowable frame retransmissions. Specify the arguments with the following values:

- *line-num*: Type the value used in Step 1.
- *ds0-num*: Type the value used in Step 1.
- *n200*: In the range from 1 to 10

Step 7 Type the **cnflapdtimer** command, *line-num*, *ds0-num*, *frame-trans-time*, and *frame-exchange-time* argument values, and press **Enter** to specify the two LAPD timers. Specify the arguments with the following values:

- *line-num*: Type the value used in Step 1.
- *ds0-num*: Type the value used in Step 1.
- *frame-trans-time* (time, at the end of which, a frame transmission can be initiated):
  - 1000 to 1023000 for PRI (specify in increments of 50 ms)
  - 100 to 350 for GR-303 (specify in increments of 50 ms)

Note The specified value for *frame-trans-time* must be less than the specified value for *frame-exchange-time*.

- *frame-exchange-time* (maximum time allowed without frames being exchanged) argument values:
  - 1000 to 1023000 for PRI (specify in increments of 10000 ms)
  - 10000 to 300000 for GR-303 (specify in increments of 10000 ms)

You have completed adding and configuring CCS. Proceed to the "Configuring Bearer Processing" section on page 4-27.

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Configuring TDM Side Signaling for Applications Using CAS

Note If your application requires CCS, see the "Configuring TDM Side Signaling for Applications Using CCS" section on page 4-20.

CAS signaling is used for the following operating modes:

- VoIP trunking.
- VoIP switching—TDM side signaling is translated in xGCP messages to the call agent.
- AAL2 trunking—Signaling is transported across the trunk as Q.931 messages in AAL2 cells using AAL5.
- Switched AAL2 PVC—Signaling is backhauled to the call agent using xGCP on the TDM side and Reliable User Datagram Protocol (RUDP)/User Datagram Protocol (UDP)/IP/Q.2931 on the call agent side.

Complete the following steps to add and configure CAS signaling.

Note If you choose CAS signaling for a VISM/VISM-PR E1 line, the supported operating modes are AAL2 trunking and VoIP trunking. In addition Step 1 through Step 8 and Step 11 through Step 13 are used only in the VoIP switching and switched AAL2 PVC operating modes.

Step 1 Type the **cnfcasparamsource** command, *endpt-num* and *cas-source* argument values, and press **Enter** to configure the source of CAS-related timer parameters for a specified endpoint. Specify the arguments with the following values:

- *endpt-num*:
  - For template number 1:

    For VISM, in the range from 1 to 145

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248
  - For template number 2:

    For VISM T1, in the range from 1 to 192

    For VISM E1, in the range from 1 to 248
  - For template number 3:

    For VISM, in the range from 1 to 120

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248
  - For template number 4:

    For VISM-PR, in the range from 1 to 144
- *cas-source*:
  - 1 = CAS application file
  - 2 = Current VISM MIB file

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Note The **cnfcasparamsource** command permits different CAS-related timer values for different endpoints, but all are associated with the same CAS variant.

Step 2 Type the **cnfcasonhooktime** command, *endpt-num* and *onhooktime* argument values, and press **Enter** to specify the minimum time an on hook-pattern must be present to be recognized as an on-hook signal. Specify the arguments with the following values:

- *endpt-num*: Type the value used in Step 1.
- *onhooktime*: In the range from 10 to 1000

Step 3 Type the **cnfcasoffhooktime** command, *endpt-num* and *offhooktime* argument values, and press **Enter** to specify the minimum time an off-hook pattern must be present to be recognized as an off-hook signal. Specify the arguments with the following values:

- *endpt-num*: Type the value used in Step 1.
- *offhooktime*: In the range from 10 to 1000

Step 4 Type the **cnfcaswinktime** command, *endpt-num*, *min-make-time*, *max-make-time*, and *min-break-time* argument values, and press **Enter** to specify the minimum and maximum make times and the minimum break time. A wink begins with an on-hook pattern, goes to off-hook, and returns to on-hook. Specify the arguments with the following values:

- *endpt-num*: Type the value used in Step 1.
- *min-make-time*: In the range from 10 to 1000
- *max-make-time*: In the range from 10 to 3000
- *min-break-time*: In the range from 10 to 1000

Note All three make and break duration time argument values must be observed for the signaling sequence to be recognized as a wink.

Step 5 Type the **cnfcasglaretime** command, *endpt-num* and *glaretime* argument values, and press **Enter** to specify the glare time. Specify the arguments with the following values:

- *endpt-num*: Type the value used in Step 1.
- *glaretime*: In the range from 10 to 1000

Step 6 Type the **cnfcasguardtime** command, *endpt-num* and *guardtime* argument values, and press **Enter** to specify the guard time. Specify the arguments with the following values:

- *endpt-num*: Type the value used in Step 1.
- *guardtime* argument values:
  - In the range from 10 to 1000

Step 7 Type the **cnfcasdialdelay** command, *endpt-num* and *dial-delay* argument values and press **Enter** to configure the CAS dial delay (wait time).

Dial delay is the time that VISM waits before sending dialing digits after sending an off-hook event.

Note The **cnfcasdialdelay** command applies to immediate start protocols only.

Specify the arguments with the following values:

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- *endpt-num*: Type the value used in Step 1.
- *dial-delay*: In the range from 10 to 1000

Step 8 To configure CAS for the switched AAL2 PVC operating mode, proceed to Step 11. To configure CAS for the AAL2 trunking operating mode, proceed to Step 9.

Step 9 Type the **cnfcascode** command, *endpt-num*, |*endpt-num*|, *idle-code*, and *seized-code* argument values and press **Enter** to specify the idle and seized codes for one or more endpoints. Specify the arguments with the following values:

- *endpt-num*: Type the value used in Step 1.

Note If the |*endpt-num*| optional argument value is used in combination with this argument, the *endpt-num* argument value is the first endpoint in a consecutive range of endpoints.

- |*endpt-num*|:
  - For template number 1:

    For VISM, in the range from 1 to 145

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248
  - For template number 2:

    For VISM T1, in the range from 1 to 192

    For VISM E1, in the range from 1 to 248
  - For template number 3:

    For VISM, in the range from 1 to 120

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248
  - For template number 4:

    For VISM-PR, in the range from 1 to 144

Note The |*endpt-num*| optional argument value indicates the last endpoint in a consecutive range of endpoints.

- *idle-code* (4-bit idle code): In the range from 0 to 15 represents the four A, B, C, and D signaling as bits 3, 2, 1, and 0 respectively with bit 3 the most significant.
- *seized-code* (4-bit seized code): In the range from 0 to 15 represents the four A, B, C, and D signaling as bits 3, 2, 1, and 0 respectively with bit 3 the most significant.

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Step 10 Type the **cnfds0localcas** command, *line-num*, *ds0-num*, *local-cas-enable*, and *local-cas-pattern* argument values, and press **Enter** to configure a local CAS bit pattern for a T1 line and DS0.

Note The **cnfds0localcas** command is not allowed if the line is E1 or not enabled, or the DS0 is in a remote loop state, or if the line signaling type is CAS.

Specify the arguments with the following values:

- *line-num*: 1 to 8 (T1 lines only)
- *ds0-num*: 1 to 24
- *local-cas-enable*:
  - 1 = Enable
  - 2 = Disable
- *local-cas-pattern*: In the range from 1 (default) to 15

Note If the *local-cas-enable* argument value = 1, you must specify a *local-cas-pattern* argument value.

Step 11 Type the **addcasvar** command, *var-name*, *file-name* and |*source*| argument values, and press **Enter** to add a CAS variant to your VISM card.

Note A file containing the CAS variant information must be downloaded to your MGX 8000 Series PXM card using a separate application (TFTP) before you can execute this command.

Specify the arguments with the following values:

- *var-name* (name of the CAS variant): A text string of 1 to 64 alphanumeric characters.
- *file-name*:
  - **wink_did_dod.o** = wink start
  - **ground_start.o** = ground start
  - **wink_did_dod_mf.o** = wink start multifrequency
  - **q50.o** = Q.50
  - **fgd_ea_incoming.o** = for endpoints connected to an end office
  - **fgd_ea_outgoing.o** = for endpoints connected to an access carrier
  - **fgd_os_e911.o** = for endpoints connected to FDG OSS (Feature group D operator services system.
  - **loop_start.o** = loop start
  - **delay_did_dod.o** = dial delay, DTMF
  - **delay_did_dod_mf.o** = dial delay, MF
  - **immed_did_dod.o** = immediate start
  - **immed_did_dod_mf.o** = immediate start, MF
  - In the range from 1 to 32 alphanumeric characters—user configured files only.

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- |*source*| (CAS variant file location):
  - 1 = Unspecified. If TFTP domain is configured, the location is the TFTP server. If not found in the TFTP server, the file is treated as built-in.
  - 2 = User configured (built-in) file location.
  - 3 = External—resides on the TFTP server.

Step 12 Type the **cnfcasvar** command, *var-name*, *country-code*, *partial-time*, *critical-time*, and *interdigit-timeout* argument values, and press **Enter** to configure a CAS variant and CAS timing parameters for the variant added in Step 11. Specify the arguments with the following values:

- *var-name*: Type the value used in Step 11.
- *country-code*: The two-character country code of the variant.
- *partial-time* (partial dial time): In the range from 10 to 10000, in increments of 10 seconds.
- *critical-time* (critical timing): In the range from 0 to 10000, in increments of 10 seconds.
- *interdigit-timeout* (interdigit timeout for MF digits): In the range from 1 to 10 seconds.

Step 13 Type the **cnfcasendpt** command, *endpt-num* and *var-name* argument values, and press **Enter** to associate an endpoint with a CAS variant. Specify the arguments with the following values:

- *endpt-num*: Type a value used in Step 9.
- *var-name*: Type the value used in Step 11.

You have completed adding and configuring CAS signaling. Proceed to the "Configuring Bearer Processing" section on page 4-27.

Configuring Bearer Processing

Processing of the bearer payload takes place either upon receipt of the payload from a T1 or E1 line or prior to transmission over a T1 or E1 line. You must complete the following tasks to configure bearer processing:

1. Configure codecs.
2. Configure ECAN.
3. Configure jitter.

Configuring Codecs

Complete the following steps to assign and configure a codec template:

Step 1 Type the **cnfcodectmpl** command, a *template-num* argument value, and press **Enter** to specify a codec template. Specify the *template-num* argument value from the following:

- 1 = G.711u, G.711a, G.726-16k, G.726-24k, G.726-32k, G.726-40k, G.729a, and G.729ab codecs, and clear channel

Note Template 1 is not supported for the VoIP operating mode.

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- 2 = G.711u and G.711a codecs, and clear channel

Note The **cnfcodectmpl** command is included in the "Allocating Resources" section on page 4-9 but is included here for your convenience.

- 3 = G.711u, G.711a, G.726-16k, G.726-24k, G.726-32k, G.726-40k, G.729a, and G.729ab codecs, clear channel, and T.38 fax transfer
- 4 = G.711u, G.711a, G. 726-16k, G.726-24k, G.726-32k, G.726-40k, G.729a, G.729ab, G.723.1-H, G.723.1a-H, G.723.1-L, G.723.1a-L codecs and clear channel

Step 2 Type the **cnfcodecparams** command, *codec-type*, *codec-pkt-period*, |*preference*, *codec-string*, and *iana-type*| argument values, and press **Enter** to specify various codec parameters for use in the VoIP operating mode.

The packetization period is defined in three separate commands depending upon the ATM method used:

- Use the **cnfcodecparams** command for VoIP switching applications. Complete this step.
- Use the **addcid** command for AAL2 trunking applications. See the "Configuring AAL2 Trunking Operating Mode Parameters" section on page 4-36.
- Use the **addrtpcon** command for AAL2 trunking applications.
- Use the **cnfprofelemvoice** command for switched AAL2 PVC applications. See the "Configuring Switched AAL2 PVC Operating Mode Parameters" section on page 4-38.

Specify the arguments with the following values:

- *codec-type*: In the range from 1 to 14.
- *codec-pkt-period*:
  - 10
  - 20
  - 30
  - 40
  - 60
- *preference*:
  - 0 = Ignore preference
  - In the range from 1 (highest) to 13 (lowest).
- *codec-string*: In the range from 1 to 20 ASCII characters.
- *iana-type* (IANA registered codec type): In the range from 0 to 96.

Step 3 Type the **cnfcodecneg** command, the *codec-priority* argument value, and press **Enter** to specify a codec preference order when there are several codec lists—from the call agent local connection option (LCO) list, local MIB, or a list received from the remote gateway in the session description protocol (SDP) data. Specify the *codec-priority* argument value with one of the following:

- 1 = LCO list, remote SDP data list, local MIB
- 2 = LCO list, local MIB, remote SDP data list
- 3 = Remote SDP data list, LCO list, local MIB
- 4 = Remote SDP data list, local MIB, LCO list

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- 5 = Local MIB, LCO list, remote SDP data list
- 6 = Local MIB, remote SDP data list, LCO list

You have completed assigning and configuring the codec template. Proceed to the "Configuring ECAN" section on page 4-29.

Configuring ECAN

Complete the following steps to enable and configure echo cancellation (ECAN) on a line-by-line basis:

Step 1 Type the **cnfecanenable** command, *line-num* and *ecan-enable* argument values, and press **Enter** to enable (or disable) ECAN for a line. Specify the arguments with the following values:

- *line-num*: In the range from 1 to 8.
- *ecan-enable*:
  - 1 = Disable
  - 2 = Enable

Step 2 Type the **cnfecanrec** command, *line-num* and *res-echo-control* argument values, and press **Enter** to set the residual echo control. Specify the arguments with the following values:

- *line-num*: Type the value used in Step 1.
- *res-echo-control*:
  - 1 = Cancel only
  - 2 = Suppress residual
  - 4 = Comfort noise

Step 3 Type the **cnfecantail** command, *line-num* and *max-ecan-tail* argument values, and press **Enter** to specify the ECAN algorithm's maximum tail length. Specify the arguments with the following values:

- *line-num*: Type the value used in Step 1.
- *max-ecan-tail* (defined in milliseconds):
  - 24
  - 32
  - 48
  - 64
  - 80
  - 96
  - 112
  - 128

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Step 4 Type the **cnferl** command, the *echo-ret-loss* argument value, and press **Enter** to specify the ECAN algorithm's return echo loss applied by ECAN DSPs, in decibels. Specify the *echo-ret-loss* argument with one of the following values:

- *echo-ret-loss*:
  - 1 = 0 dB
  - 2 = 3 dB
  - 3 = 6 dB
  - 4 = 1 dB

Step 5 Type the **cnfconvbdpol** command, *lcn*, *carrier-loss-pol*, and *cac-reject-pol* argument values, and press **Enter** to specify the fax/modem upspeed connection admission control (CAC) failure and carrier loss policies for a channel. Specify the arguments with the following values:

- *lcn* (logical channel number): In the range from 131 to 510.
- *carrier-loss-pol* (carrier loss policy):
  - 1 = Revert to the previous codec
  - 2 = Maintain the upspeed codec
  - 3 = Unspecified
- *cac-reject-pol* (CAC rejection policy):
  - 1 = Delete the connection
  - 2 = Maintain the connection
  - 3 = Unspecified

You have completed enabling and configuring ECAN on your lines. Proceed to the "Configuring Jitter" section on page 4-30.

Configuring Jitter

You can dejitter the voice payload to improve the quality of the egress voice stream.

Note If your application uses the AAL2 trunking operation mode, you cannot change the jitter parameters while the CIDs are active.

Complete the following steps to specify and configure jitter mode:

Step 1 Type the **cnfjtrmode** command, the *jitter-mode* argument value, and press **Enter** to set the jitter mode. Specify the *jitter-mode* argument with one of the following values:

- 1 = Fixed buffer size; recommended value if the jitter amount is expected to be constant or near constant.
- 2 = Adaptive; you specify a starting buffer size and VISM adapts the buffer size to handle jitter.

Step 2 If you chose a fixed buffer size in Step 1, you have completed configuring jitter. Proceed to the "Configuring the ATM Network Side" section on page 4-31. If you chose an adaptive buffer size in Step 1, proceed to Step 3.

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Step 3 Type the **cnfjtrinitdelay** command, the *jitter-buffer-size* argument value, and press **Enter** to specify the starting buffer size. Specify the *jitter-buffer-size* argument (defined in bytes) with a value from one of the following ranges:

- For template numbers 1, 3, and 4, in the range from 0 to 100 in increments of 10.
- For template number 2, in the range from 0 to 100 in increments of 5.

You have completed configuring jitter. Proceed to the "Configuring the ATM Network Side" section on page 4-31.

Configuring PNNI for AAL1/AAL2 SVCs

Use the **cnfpncon** command to configure Private Network-to-Network Interface (PNNI) priority routing for AAL1/AAL2 switched virtual circuits (SVCs). Refer to Chapter 5, "CLI Commands," for more information on using the **cnfpncon** command.

Configuring the ATM Network Side

Configuring the ATM network side consists of setting up ATM PVCs across the network and providing the mechanism by which calls are routed over the correct PVC. The PVC configuration depends on the VISM operating mode you require for your application.

- The Voice over IP switching operating mode requires you to set up an AAL5 PVC between the VISM card and the PXM card, and then to an edge router. A single PVC is set up (a secondary PVC may also be set up for redundancy). The PVC is used for bearer voice traffic and gateway protocol communication between VISM and the call agent. The router extracts the IP frames from the ATM cells and routes the frames accordingly.
- The AAL2 trunking operating mode requires you to set up as many as 64 AAL2 PVCs connected to each remote location supported by the network. The PVCs carry voice traffic and optional CAS signaling.

  Each PVC is set up as three segments consisting of two local segments and one network segment. The local segments are set up between the two VISM cards (one at the end of the PVC) and their respective PXM cards. The network segment is set up between the two PXM cards across the network. Refer to the Cisco MGX 8250 and MGX 8230 Release l installation and configuration guides for more information.

  In AAL2 trunking operating mode, you must bind endpoints to specific DS0s using the **addendpoint(s)** commands. You must also create CIDs (connection identifiers) for each PVC that binds the endpoints to the CID and a PVC. This ensures that calls arriving at a specific DS0 are automatically routed to the preconfigured CID and PVC over nailed-down trunks. There is no switched or call agent involvement.

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- The switched AAL2 PVC operating mode requires you to set up as many as 64 AAL2 PVCs connected to each remote location supported by the network. The PVCs carry voice traffic across the ATM network.

  Each PVC is set up as three segments consisting of two local segments and one network segment. The local segments are set up between the two VISM cards (one at the end of the PVC) and their respective PXM cards. The network segment is set up between the two PXM cards across the network. Refer to the Cisco MGX 8850 Release 1 installation and configuration guides for more information.

  In switched AAL2 PVC operating mode, you must bind endpoints to specific DS0s using the **addendpoint(s)** commands. You must also create VCCIs (virtual circuit connection identifiers), which identify each PVC and associate each PVC with a specific remote ATM address. At call setup time, the call agent informs VISM which VCCI to use for the call and instructs VISM to set up a CID for transport across the VCCI. This ensures that the binding of a DS0 to a CID and PVC is dynamic by using of the called address.

Configuring PVC Connections for All Operating Modes

Complete the following steps to configure PVC connections for all operating modes:

Step 1 Type the **addcon** command, *local-vci*, *pref-level*, *pvc-conn-type*, *conn-app*, *peak-cell-rate*, *conn-type*, |*remote-conn-id*, *service-type*, *sus-cell-rate*, and *max-burst-rate*| argument values, and press **Enter** to add an ATM PVC between the VISM card and the MGX 8000 Series platform PXM card. Specify the **addcon** command arguments with the following values:

- *local-vci*: In the range from 131 to 510.
- *pref-level*:
  - 1 = Primary
  - 2 = Secondary (for redundancy)
- *pvc-conn-type*:
  - 1 = AAL5
  - 2 = AAL2
  - 3 = AAL1
- *conn-app*:
  - 1 = Control
  - 2 = Bearer
  - 3 = Signaling
- *peak-cell-rate* (defined as cells per second):
  - In the range from 1 to 80000 for VoIP bearer.
  - In the range from 1 to 20000 for VoIP control.
  - In the range from 1 to 50000 for AAL2 T1.
  - In the range from 1 to 60000 for AAL2 E1.
  - In the range from 1 to 400 for AAL2 signaling (trunking).
  - In the range from 1 to 90000 for AAL5 bearer.
  - In the range from 1 to 10000 for AAL5 control.

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- *conn-type* (type of connection):
  - 1 = Master
  - 2 = Slave (default)
- |*remote-conn-id*| (remote connection identifier):
  - Type the value in the following format: nodename.slot.port.vpi.vci

Note Use the optional |*remote-conn-id*| argument only if you selected the *conn-type* argument value of 1 (master).

- |*service-type*|:
  - 1 = Constant bit rate (CBR)
  - 2 = Variable bit rate real time, VBR (RT)
  - 3 = Variable bit rate non-real time, VBR (NRT)
  - 4 = VBR (RT) 3
  - 5 = VBR (RT) 2
  - 6 = VBR (NRT) 2
  - 7 = VBR (NRT) 3
- |*sus-cell-rate*| (sustainable cell rate):
  - In the range from 1 to the value you specified for the *peak-cell-rate* argument.
- |*max-burst-rate*| (maximum number of cells transmitted at the peak cell rate):
  - In the range from 1 to 10 times the value you specified for the *sus-cell-rate* argument.

Step 2 Type the **cnfcon** command, *lcn*, *peak-cell-rate*, *service-type*, *sus-cell-rate*, and *max-burst-rate* argument values and press **Enter** if you need to refine the configuration parameters of the connection added in Step 1 and identify the connection by the logical channel number. Specify the arguments with the following values:

- *lcn*: Type the value you entered for the *local-vci* argument in Step 1.
- *peak-cell-rate* (defined as cells per second):
  - In the range from 1 to 80000 for VoIP bearer.
  - In the range from 1 to 20000 for VoIP control.
  - In the range from 1 to 50000 for AAL2 T1.
  - In the range from 1 to 60000 for AAL2 E1.
  - In the range from 1 to 400 for AAL2 signaling (trunking).
  - In the range from 1 to 90000 for AAL5 bearer.
  - In the range from 1 to 10000 for AAL5 control.

Note The *peak-cell-rate* argument value cannot be changed if the calls or connections for signaling and control are active.

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- *service-type*:
  - 1 = Constant bit rate (CBR)
  - 2 = Variable bit rate real time—VBR (RT)
  - 3 = Variable bit rate non-real time—VBR (NRT)
  - 4 = VBR (RT) 3
  - 5 = VBR (RT) 2
  - 6 = VBR (NRT) 2
  - 7 = VBR (NRT) 3
- *sus-cell-rate* (sustained cell rate, defined as cells per second):
  - In the range from 15 to the value you specified for the *peak-cell-rate* argument.
- *max-burst-rate* (maximum burst rate, defined as cells per second):
  - In the range from 1 to 10 times the value you specified for the *sus-cell-rate* argument.

Step 3 Type the **addconloop** command, the *lcn* argument value, and press **Enter** to set a loopback on a VISM PVC with the loopback in the direction of cellbus. Specify the *lcn* argument value with a value in the range from 131 to 510.

Note You can use the **delconloop** command to remove a loopback on a VISM PVC.

You have completed configuring PVC connections. Proceed to one of the following sections, as appropriate:

- Configuring VoIP Switching/Trunking Operating Mode Parameters, page 4-34.
- Configuring AAL2 Trunking Operating Mode Parameters, page 4-36.
- Configuring Switched AAL2 PVC Operating Mode Parameters, page 4-38.

Configuring VoIP Switching/Trunking Operating Mode Parameters

Complete the following steps to configure VoIP switching operating mode parameters:

Step 1 Type the **cnfconprotect** command, *lcn*, *protect-enable*, *lock-state*, and *second-lcn* argument values, and press **Enter** to configure primary and secondary PVCs to provide protection in the event of a PVC failure. Specify the argument with the following values:

- *lcn*: In the range from 131 to 510.
- *protect-enable*:
  - 1 = On
  - 2 = Off
- *lock-state*:
  - 1 = Unlock
  - 2 = Lock
- *second-lcn* (secondary LCN): In the range from 131 to 510.

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Step 2 Type the **cnfdeftos** command, *control-prec*, *control-tos*, |*bearer-prec*|, and |*bearer-tos*| argument values, and press **Enter** to configure the type of service for both control and bearer IP packets.

Note If you do not execute the **cnfdeftos** command, card level default values are used.

Specify the arguments with the following values:

- *control-prec*: In the range from 0 to 7 (default = 3)
- *control-tos* (type of service for control packets):
  - 0 (default)
  - 1
  - 2
  - 4
  - 8
- *bearer-prec*: In the range from 0 to 7 (default = 5)
- *bearer-tos* (type of service for bearer packets):
  - 0 (default)
  - 1
  - 2
  - 4
  - 8

Note The *bearer-prec* and *bearer-tos* arguments are used during call setup in cases where values are not supplied by a call agent.

Step 3 Type the **cnfvoiptransparams** command, *dtmf-trans*, *cas-trans*, and |*event-neg-enable*|, |*event-neg-pol*|, and |*sid-type*| argument values, and press **Enter** to configure the VoIP transportation characteristics across the network. Specify the arguments with the following values:

- *dtmf-trans* (DTMF tones relayed to the other endpoint):
  - 1 = On
  - 2 = Off
- *cas-trans* (CAS bits relayed to the other endpoint):
  - 1 = On
  - 2 = Off
- *event-neg-enable* (Optional):
  - 1 = On
  - 2 = Off

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- *event-neg-pol* (Optional; event negotiation policy):
  - 1 = None
  - 2 = Proprietary (default)
  - 3 = All
- *sid-type* (Optional; SID payload type): In the range from 0 to 255 (default = 13)

You have completed configuring the VoIP switching operating mode parameters. Proceed to the "Configuring the Call Agent Interface" section on page 4-44.

Configuring AAL2 Trunking Operating Mode Parameters

Complete the following steps to configure AAL2 trunking operating mode parameters:

Step 1 Type the **addcid** command, *endpt-num*, *lcn*, *cid-num*, *codec-type*, *profile-type*, *profile-num*, |*vad-enable*, *vad-init-timer*, *ecan-enable*, *type-3-red*, *cas-trans*, *dtmf-trans*, *idle-code-sup*, and *pkt-period*| argument values, and press **Enter** to add a channel identifier (CID) to an AAL2 PVC.

The CID is a mechanism within AAL2 that allows multiple calls to be transported across a single AAL2 PVC. The **addcid** command binds an endpoint to a logical channel (PVC). Specify the arguments with the following values:

- *endpt-num* (endpoint to be related to the LCN/CID pair being added):
  - For template number 1:

    For VISM, in the range from 1 to 145

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248
  - For template number 2:

    For VISM T1, in the range from 1 to 192

    For VISM E1, in the range from 1 to 248
  - For template number 3:

    For VISM, in the range from 1 to 120

    For VISM-PR T1, in the range from 1 to 192

    For VISM-PR E1, in the range from 1 to 248
  - For template number 4:

    For VISM-PR, in the range from 1 to 144
- *lcn* (LCN of the LCN/CID pair): In the range from 131 to 510.
- *cid-num* (CID of the LCN/CID pair): In the range from 8 to 255.
- *codec-type*:
  - 1 = G.711u
  - 2 = G.711a
  - 3 = G.726-32k
  - 4 = G.729a

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  - 5 = G.729ab
  - 6 = Clear channel (VAD must be off)
  - 7 = G.726-16k
  - 8 = G.726-24k
  - 9 = G.726-40k
  - 11 = G.723-H
  - 12 = G.723a-H
  - 13 = G.723.1-L
  - 14 = G.723.1a-L
- *profile-type* (used for the CID):
  - 1 = International Telecommunication Union (ITU) I.366.2
  - 3 = Custom
- *profile-num*:
  - 1 = for the ITU profile
  - 2 = for the ITU profile
  - 3 = for the ITU profile
  - 7 = for the ITU profile
  - 8 = for the ITU profile
  - 12 = for the ITU profile
  - 100 = for custom profiles
  - 101 = for custom profiles
  - 110 = for custom profiles
  - 200 = for custom profiles
- *vad-enable*:
  - 1 = On
  - 2 = Off
- *vad-init-timer* (holdover timer; in milliseconds): In the range from 250 to 65535 (default = 250)
- *ecan-enable*:
  - 1 = On (default)
  - 2 = Off
- *type-3-red* (triple redundancy protection for CAS type 3 packets):
  - 1 = On
  - 2 = Off
- *cas-trans*:
  - 1 = On (default)
  - 2 = Off

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- *dtmf-trans* (DTMF tone transport as AAL2 type 3 packets):
  - 1 = On (default)
  - 2 = Off

Note The *dtmf-trans* argument value must be set to 1 (on) when the *codec-type* is configured for codecs other than G.711 and G.726.

- *idle-code-sup* (idle code suppression):
  - 1 = On
  - 2 = Off
- *pkt-period* (defined in milliseconds):
  - 10

  The *pkt-period* argument requires you to configure packetization in the following ways for the other two operating modes:
  - Use the **cnfcodedecparams** for the VoIP operating mode.
  - Use the **cnfprofelemvoice** command for the switched AAL2 PVC operating mode. See the "Configuring Switched AAL2 PVC Operating Mode Parameters" section on page 4-38 for more information.

Step 2 Type the **cnfaal2subcellmuxing** command, the *mux-enable* argument value, and press **Enter** to enable or disable subcell multiplexing. Specify the *mux-enable* argument with one of the following values:

- 1 = On
- 2 = Off

You have completed configuring the AAL2 trunking operating mode parameters.

Configuring Switched AAL2 PVC Operating Mode Parameters

Note The switched AAL2 PVC operating mode is not supported in VISM Release 3.0.

You must complete the following tasks to configure the switched AAL2 PVC operating mode parameters:

1. Configure a virtual circuit connection identifier (VCCI).
2. Modify the AAL2 PVC profile table.

Note Modifying the AAL2 PVC profile table is not mandatory.

3. Configure AAL2 PVC parameters.

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Configuring a Virtual Circuit Connection Identifier

Complete the following steps to configure a VCCI for the switched AAL2 PVC operating mode:

Step 1 Type the **cnfconvcci** command, *lcn*, *vcci-num*, *addr-type*, and |*fe-addr*| argument values, and press **Enter** to create a new VCCI with an associated logical channel number and a remote ATM address. Specify the arguments with the following values:

- *lcn*: In the range from 131 to 510.
- *vcci-num*: In the range from 0 to 65535.
- *addr-type* (address type):
  - 1 = Not applicable
  - 2 = Network service access point (NSAP); a 20-byte hexadecimal address
  - 3 = E.164 public network addressing; a 1- to 15-byte decimal address
  - 4 = Gateway ID; a 1- to 64-byte ASCII character address
  - 5 = Unspecified
- |*fe-addr*|: The actual remote address

Step 2 Repeat Step 1, as needed, to configure VCCIs on other LCNs.

You have completed configuring VCCIs for the switched AAL2 PVC operating mode. Proceed to the "Modifying the AAL2 PVC Operating Mode Profile Table" section on page 4-39.

Modifying the AAL2 PVC Operating Mode Profile Table

A profile table is associated with each AAL2 operating mode. This profile table specifies the encoding format, which tells the card how to interpret the packets.

You can use the **dspaal2profile** command to see the values for a profile type. Example 4-1 shows the default values for ITU profile type 1.

Example 4-1 Default Values for ITU Profile 1

```
nodename.1.28.VISM8.a > dspaal2profile 1 1

    UUI      Packet                              Packet  Seq. No.
Codepoint   Length                               Time   Interval
  Range    (octets)  Codec       SID      M     (ms)      (ms)
   0-15       40     PCMU        No SID   1      5         5
   0-15       40     PCMA        No SID   1      5         5
```

Table 4-4 describes the fields shown in the display.

Table 4-4 dspaal2profile Field Descriptions

Field	Description
UUI Codepoint Range	User-to-user indication.
Packet Length (octets)	Packet length for the encoding format.
Codec	Type of codec.
SID	Silence insertion descriptor.

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Table 4-4 dspaal2profile Field Descriptions (continued)

Field	Description
M	Multiple of the service data unit (SDU) for the profile. The SDU is the smallest packet length.
Packet Time (ms)	Voice packetization period.
Seq. No. Interval (ms)	Sequence number interval.

VISM/VISM-PR creates the profile table with the defaults that are listed in Table 4-5. This table is a summary of the output from the **dspaal2profile** command.

Table 4-5 AAL2 Operating Mode Profiles

Profile Type	Profile Number	UUI Codepoint Range	Packet Length	Voice codec	VAD	M	Voice Packet Period	Sequence Number Interval	Voice Band Data Codec	Voice Band Data Packet Period
ITU	1	0–15	40	G.711u	Off	1	5	5	G.711u	5
ITU	2	0–15	40	G.711u	SIDG	1	5	5	G.711u	5
ITU	3	0–15	40	G.711u	SIDG	1	5	5	G.711u	5
		0–15	10	G.726–16k		1	5	5		
		0–15	15	G.726–24k		1	5	5		
		0–15	20	G.726–32k		1	5	5		
		0–15	25	G.726–40k		1	5	5		
ITU	7	0–15	40	G.711u	SIDG	1	5	5	G.711u	5
		0–15	10	G.729a	Off	1	10	5		
		0–15	10	G.729ab	SID729	1	10	5		
ITU	8	0–15	40	G.711u	Off	1	5	5	G.711u	5
		0–15	20	G.726–32k	Off	1	5	5		
		0–15	10	G.729a	Off	1	10	5		
		0–15	10	G.729ab	SID729	1	10	5		
ITU	12	0–15	24	G.723.1-H	Off	1	30	5	G.711u	5
		0–15	24	G.723.1a-H	SID723	1	30	5		
		0–15	20	G.723.1-L	Off	1	30	5		
		0–15	20	G.723.1a-L	SID723	1	30	5		
Custom	100	0–7	40	G.711u	SIDG	1	5	5	G.711u	5
		8–15	40	G.726-32	SIDG	2	10	5		
Custom	101	0–7	40	G.711u	Off	1	5	5	G.711u	5
		8–15	40	G.726-32	Off	2	10	5		
		8–15	10	G.729a	Off	1	10	5		
		8–15	10	G.729ab	SID729	1	10	5		

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Table 4-5 AAL2 Operating Mode Profiles (continued)

Profile Type	Profile Number	UUI Codepoint Range	Packet Length	Voice codec	VAD	M	Voice Packet Period	Sequence Number Interval	Voice Band Data Codec	Voice Band Data Packet Period
Custom	110	0–7	40	G.711u	SIDG	1	5	5	G.711u	5
		8–15	40	G.726-32	SIDG	2	10	5		
		8–15	30	G.729a	Off	3	30	5		
		8–15	30	G.729ab	SID729	3	30	5		
Custom	200	0–15	40	Clear channel	Off	40	5	5	G.711u	5

Complete the following steps to assign a profile preference and to modify the packet period and SID values of the profile table, as necessary.

Note Modifying the AAL2 PVC profile table is not mandatory. Proceed to the "Configuring AAL2 PVC Parameters" section on page 4-43 if the values shown in Table 4-5 are correct for your application and configuration requirements.

Step 1 Type the **cnfprofparams** command, *profile-type*, *profile-num*, and *profile-pref* argument values, and press **Enter** to specify the preference for a given profile during call setup profile negotiation. Specify the arguments with the following values:

- *profile-type*:
  - 1 = ITU
  - 3 = Custom
- *profile-num*:
  - 1 = for the ITU profile
  - 2 = for the ITU profile
  - 3 = for the ITU profile
  - 7 = for the ITU profile
  - 8 = for the ITU profile
  - 12 = for the ITU profile
  - 100 = for custom profiles
  - 101 = for custom profiles
  - 110 = for custom profiles
  - 200 = for custom profiles
- *profile-pref*:
  - 0 = No preference; excludes a profile from negotiation
  - In the range from 1 (highest) to 9 (lowest)

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Step 2 Type the **cnfprofelemvoice** command, *profile-type*, *profile-num*, *codec-type*, *pvoice-pkt-period*, and *sid* argument values, and press **Enter** to configure the voice profile element for a specified profile. Specify the arguments with the following values:

- *profile-type*: Refer to the options listed in Step 1.
- *profile-num*: Refer to the options listed in Step 1.
- *codec-type* argument values:
  - 1 = G.711u
  - 2 = G.711a
  - 3 = G.726-32k
  - 4 = G.729a
  - 5 = G.729ab
  - 6 = Clear channel (VAD must be off)
  - 7 = G.726-16k
  - 8 = G.726-24k
  - 9 = G.726-40k
  - 11 = G.723.1-H
  - 12 = G.723.1a-H
  - 13 = G.723.1-L
  - 14 = G.723.1a-L
- *pvoice-pkt-period* (defined in milliseconds):
  - 5
  - 10
  - 20
  - 30
  - 40
  - 60
- *sid*:
  - 1 = VAD off
  - 2 = VAD on
  - 3 = SID generic
  - 4 = SID 729
  - 5 = SID 723

Step 3 Type the **cnfprofelemvbd** command, *profile-type*, *profile-num*, *codec-type*, and *vbd-pkt-period* argument values, and press **Enter** to configure the voiceband data element for a specified profile. Specify the arguments with the following values:

- *profile-type*—Refer to the options listed in Step 1.
- *profile-num*—Refer to the options listed in Step 1.
- *vbd-codec-type*—Refer to the options listed in Step 2.
- *vbd-pkt-period* (defined in milliseconds):

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  - 5
  - 10
  - 30

Step 4 Type the **cnfprofneg** command, the *codec-priority* argument value, and press **Enter** to specify the priority preference order for the profile lists. Profiles can be from the call agent local connection option (LCO) list, local MIB, or a list received from the remote gateway in the session descriptor protocol (SDP) data. Specify the *codec-priority* argument value with one of the following:

- 1 = LCO list, remote SDP data list, local MIB
- 2 = LCO list, local MIB, remote SDP data list
- 3 = Remote SDP data list, LCO list, local MIB
- 4 = Remote SDP data list, local MIB, LCO list
- 5 = Local MIB, LCO list, remote SDP data list
- 6 = Local MIB, remote SDP data list, LCO list

You have completed modifying the switched AAL2 PVC operating mode profile table. Proceed to the "Configuring AAL2 PVC Parameters" section on page 4-43.

Configuring AAL2 PVC Parameters

Complete the following steps to configure AAL2 PVC parameters:

Step 1 Type the **cnfaal2timerparams** command, *vad-init-timer* and *cid-fill-timer* argument values, and press **Enter** to configure the holdover and maximum wait time arguments. Specify the arguments with the following values:

- *vad-init-timer* (defined in milliseconds): In the range from 250 to 65535.
- *cid-fill-timer* (defined in milliseconds): In the range from 5 to 100.

The *vad-init-timer* is the holdover time before activating silence suppression. The *cid-fill-timer* is the maximum waiting time for filling up the cell when the next packet is not ready.

Step 2 Type the **cnfaal2transparams** command, *dtmf-trans*, *cas-bits-trans*, and *type-3-red* argument values, and press **Enter** to enable or disable three parameters regarding the transport of CAS signaling.

- *dtmf-trans* (transportation of DTMF digits):
  - 1 = On
  - 2 = Off
- *cas-bits-trans* (transportation of CAS bits):
  - 1 = On
  - 2 = Off
- *type-3-red* (transportation of AAL2 Type 3 redundancy packets):
  - 1 = On
  - 2 = Off

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You have completed configuring the switched AAL2 PVC operating mode parameters. Proceed to the "Configuring the Call Agent Interface" section on page 4-44.

Configuring the Call Agent Interface

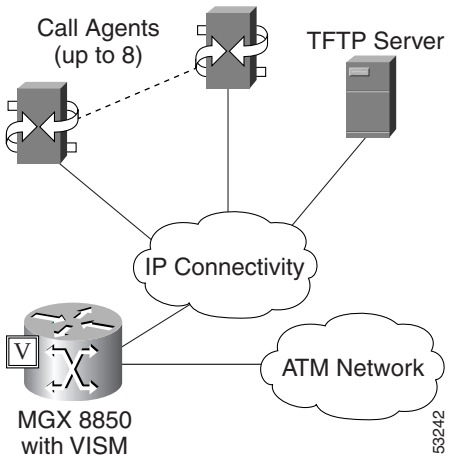
Note The CLI call agent configuration commands are used for the VoIP switching and switched AAL2 PVC operating modes only. If your application requires the AAL2 trunking operating mode, do not use the CLI call agent configuration commands described in this section.

VISM can use one to eight call agents to accomplish the following:

- Receive backhauled signaling
- Perform call setup
- Perform call teardown

VISM uses IP connectivity in order to communicate with the call agents (see Figure 4-2).

Figure 4-2 VISM to Call Agent Communication



Physical connectivity is through a PVC on an MGX 8000 Series platform PXM card's OC-3 port, to a router (in the IP Connectivity cloud in Figure 4-2), and then to the call agents.

Logical IP connectivity is performed by resolving domain name and IP address associations. The associations are accomplished in the following ways:

- Statically, by using the CLI call agent configuration commands.
- Dynamically, by using an external domain name server (DNS), which is connected to VISM through IP connectivity.

Figure 4-2 shows a TFTP server which also has an IP connection to VISM.

You must complete the following tasks to configure the call agent interface:

1. Configure domain names and IP addresses.
2. Set up call agents and protocols.

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3. Configure gateway control protocols.
4. Configure ISDN PRI backhaul (optional).

Configuring Domain Names and IP Addresses

Complete the following steps to configure domain names and IP addresses for VISM cards and call agents:

Step 1 Type the **cnfvismdn** command, the *domain-name* argument value, and press **Enter** to specify a domain name for a VISM card. Specify the *domain-name* argument with the following value:

- A text string of up to 64 alphanumeric characters; spaces are not allowed. Default = cisco.com.

Note You must use the *domain-name* argument value you entered for Step 1 when configuring the call agent(s) *domain-name* argument in Step 3.

Step 2 Type the **cnfvismip** command, *vip-addr*, *netmask*, |*bearer-ipaddr*|, and |*bearer-netmask*| argument values, and press **Enter** to specify an IP address and a subnet mask for your VISM card. Specify the arguments with the following values:

- *vip-addr*: Type the IP address of your VISM card in dotted decimal format—nnn.nnn.nnn.nnn
- *netmask* (local network mask): Type **255.255.255.248**
- |*bearer-ipaddr*| (optional): Bearer IP address in dotted decimal format: nnn.nnn.nnn.nnn
- |*bearer-netmask*| (optional): Bearer IP subnet mask in dotted decimal format: nnn.nnn.nnn.nnn

Step 3 Type the **cnftftpdn** command, the *domain-name* argument value, and press **Enter** to set up the domain names and IP addresses for the call agent(s). The domain name can be a text string of 1 to 64 alphanumeric characters.

Step 4 Repeat Step 1 through Step 3 to configure your remaining VISM cards and call agents.

You have completed configuring domain names and IP addresses for VISM cards and call agents. Proceed to the "Setting Up Call Agents and Protocols" section on page 4-45.

Setting Up Call Agents and Protocols

Complete the following steps to set up call agents and media gateway control protocols:

Step 1 Type the **adddn** command, the *domain-num*, *domain-name*, and |*resol-type*| argument values, and press **Enter** to add a domain name for a call agent. Specify the arguments with the following values:

- *domain-num*: A domain number used to identify the domain in the range 1 to 11.
- *domain-name* (call agent name): A text string of 1 to 64 alphanumeric characters.
- |*resol-type*| (the optional resolution type to configure for the specified domain name):
  - 1 = Internal only
  - 2 = External only
  - 3 = Internal first

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  - 4 = External first

Step 2 If you are not using an external DNS to resolve domain names (*resol-type* = 1 in Step 1), proceed to Step 3. If you are using an external DNS to resolve domain names, proceed to Step 3.

Step 3 Type the **adddnip** command, *resol-num*, *domain-name*, *ip-addr*, and *addr-order* argument values, and press **Enter** to add the IP address for the domain name you added in Step 1. Specify the arguments with the following values:

- *resol-num* (resolution number of the domain name): In the range from 1 to 88.
- *domain-name* (call agent name): In the range from 1 to 64 alphanumeric characters.
- *ip-addr* (IP address which corresponds to *domain-name*): IP address, which must be in the following format—nnn.nnn.nnn.nnn.
- *addr-order* (IP address resolution preference order): In the range from 1 (highest) to 8.

Step 4 Type the **addmgcgrpentry** command, *mgc-group*, *mgc-num*, and *mgc-priority* argument values, and press **Enter** to add the MGC to a redundancy group. Specify the arguments with the following values:

- *mgc-group* (call agent redundancy group number): In the range from 1 to 8.
- *mgc-num* (protocol number): In the range from 1 to 8.
- *mgc-priority* (preference of the MGC within the group): In the range from 1 (highest) to 8.

Step 5 Type the **cnfmgcgrpparam** command, *mgc-group*, *state-change-notify*, and the optional *mgc-priority* argument values, and press **Enter** to change the parameters of the MGC group, if needed.

Note This step is optional; use only if you need to change the MGC group parameters.

Specify the arguments with the following values:

- *mgc-group* (call agent redundancy group): In the range from 1 to 8.
- *state-change-notify* (state change message notification):
  - 1 = Enable (default)
  - 2 = Disable
- |*mgc-priority*| (call agent priority): In the range from 0 to 8 (default = 1)

Step 6 Type the **addmgcgrpprotocol** command, *mgc-group* and *protocol-num* argument values, and press **Enter** to associate a call agent redundancy group with a gateway control protocol. Specify the arguments with the following values:

- *mgc-group* (call agent redundancy group): In the range from 1 to 8.
- *protocol-num* (gateway control protocol): In the range from 1 to 8.

Step 7 Repeat Step 1 through Step 6 for each call agent that you need to make active in your application.

You have completed setting up call agents and media gateway control protocols. Proceed to the "Configuring Gateway Control Protocols" section on page 4-47, if necessary.

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Configuring Gateway Control Protocols

Complete the following steps to configure gateway control protocols.

Note Use the configure gateway control CLI commands in this section only if you need to configure argument values for the commands that are different than the default argument values.

Step 1 Type the **cnfxgcppeer** command, *mgc-num*, *protocol-num*, and *remote-udp-pnum*, and press **Enter** to configure a port number for a particular call agent and protocol. The port is used to send gateway-initiated messages to the call agent. Specify the arguments with the following values:

- *mgc-num*: In the range 1 to 8.
- *protocol-num*: A protocol number which is displayed by using the **dspmgcgrpprotocols** command.
- *remote-udp-pnum*: The remote UDP port number used for MGCP/SGCP protocol communication with the call agent.

Step 2 Type the **cnfxgcpmwd** command, *max-wait-delay* argument value, and press **Enter** to specify the maximum waiting time before a Restart in Progress (RSIP) message is sent to the call agent. Specify the *max-wait-delay* argument value as follows:

- *max-wait-delay* (maximum wait time; defined in milliseconds): In the range from 0 to 600000; (default = 10000; 10 seconds)

Note The *max-wait-delay* argument value sets the maximum wait time for the entire VISM card, not for a particular call agent.

Step 3 Type the **cnfxgcpretry** command, *min-vtoca-tout*, *vtoca-retrans-num*, and |*max-vtoca-tout*| argument values, and press **Enter** to specify the VISM minimum and maximum wait time, and number of retries, for a call agent message acknowledgment. Specify the arguments with the following values:

- *min-vtoca-tout* (defined in milliseconds): In the range from 1 to 100000; (default = 500)
- *vtoca-retrans-num*:
  - Default = 3
- |*max-vtoca-tout*|: In the range from 0 to 100000.

Step 4 Type the **cnfxgcpbt** command, *network-type*, *vc-type*, and *aal-conn-type* argument values, and press **Enter** to specify the type of bearer channel VISM uses, if one is not specified by the call agent in protocol local connection options. Specify the arguments with the following values:

- *network-type*:
  - 1 = IP
  - 2 = ATM
- *vc-type*:
  - 1 = PVC
  - 2 = SVC

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- *aal-conn-type*:
  - 1 = AAL1
  - 2 = AAL2
  - 3 = Not applicable

Note You must type **3** for the *aal-conn-type* argument if the *network-type* argument = 1.

Step 5 Type the **addxgcppersistevt** command, *event-num* and *pkg-event* argument values, and press **Enter** to designate xGCP events as persistent.

Note Do not complete this step if persistent events are not required for your application.

Specify the arguments with the following values:

- *event-num*: In the range from 1 to 64.
- *pkg-event*:
  - r/co3 = VISM initiated AAL2 type 3 packet (CO3) network continuity test
  - r/co4 = Network continuity test detect
  - g/ft = Fax tone
  - g/mt = Modem tone
  - g/vbd = Voiceband data
  - g/vbdt = Voiceband data termination
  - l/hu, bl/hu = On hook
  - l/hd, blhd = Off hook
  - ms/ans, dt/ans, md/ans, mo/ans = Answer
  - ms/sup, dt/sup, md/sup = Setup
  - ms/rel, dt/rel, md/rel, mo/rel = Release
  - ms/rtc, dt/rlc, md/rlc, mo/rlc = Release complete
  - ms/res, dt/res, md/res = Resume
  - ms/sus, dt/sus, md/sus = Suspend
  - md/awk = Acknowledgment wink
  - mo/rbz = Reverse make busy

Step 6 Type the **cnfsrcppeer** command, *peer-num* and *udp-port-num* argument values, and press **Enter** to specify the SRCP parameters for communication between VISM and the call agent. Specify the arguments from the following values:

- *peer-num*: The peer (call agent) identification number, as displayed in the **dspsrcppeers** command list; in the range from 1 to 8.
- *udp-port-num*: In the range from 1025 to 65535

Note If you do not execute this command, the default MGCP/SGCP port number = 2428.

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Step 7 Type the **cnfsrcppeergrpparam** command, the *mgc-group*, *hbeat-int*, and *max-udp-size* argument values, and press **Enter** to configure the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group. Specify the arguments with the following values:

- *mgc-group* (call agent redundancy group): In the range from 1 to 8
- *hbeat-int* (interval between heartbeats; defined in milliseconds):
  - 0
  - In the range from 100 to 65535.
- *max-udp-size* (maximum allowable UDP size): In the range from 4095 to 65535.

Step 8 Type the **cnfsrcpretry** command, *srcp-min-tout*, *max-srcp-retries*, and *srcp-max-tout* argument values, and press **Enter** to configure the minimum and maximum timeout periods, and retry attempts, for transmitting SRCP commands to the call agent. Specify the arguments with the following values:

- *srcp-min-tout* (defined in milliseconds): In the range from 1 to 10000 (default = 500).
- *max-srcp-retries*: In the range from 1 to 10.
- *srcp-max-tout*: In the range from 1 to 10000 (default = 500).

Step 9 Type the **cnfco4timer** command, a *co4-timeout* argument value, and press **Enter** to configure CO4 bearer continuity. Specify the argument with the following value:

- *co4-timeout* (defined in milliseconds): In the range from 50 to 10000 (default = 1000).

You have completed configuring gateway control protocols. Proceed to the "Configuring ISDN PRI Backhaul" section on page 4-49 if necessary.

Configuring ISDN PRI Backhaul

ISDN PRI backhaul configuration consists of setting up RUDP session structures:

- Session sets
- Session groups
- Sessions

A session group applies to a specified call agent and allows automatic switching to another session in the group if an active session fails. You can configure individual sessions when you have completed setting up the session sets and session groups. Refer to Chapter 3, "VISM Functional Description," for more information on session structures.

Note Use the commands in this section only if backhauling of ISDN PRI signaling to the call agent is required for your application.

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Complete the following steps to configure ISDN PRI backhaul:

Step 1 Type the **addsesset** command, *set-num* and *fault-tol-enable* argument values, and press **Enter** to create a session set. Specify the arguments with the following values:

- *set-num*: In the range from 1 to 16
- *fault-tol-enable*:
  - 1 = Yes
  - 2 = No

Step 2 Type the **addsesgrp** command, *group-num*, *set-num*, and *mgc-name* argument values, and press **Enter** to create a session group for a session set and a call agent. Specify the arguments with the following values:

- *group-num*: In the range from 1 to 16
- *set-num*: In the range from 1 to 8
- *mgc-name*: A text string of up to 64 alphanumeric characters

Step 3 Type the **addses** command, *session-num*, *group-num*, *priority*, *local-port-num*, and *remote-port-num* argument values, and press **Enter** to create an ISDN PRI backhaul RUDP session within a specified group. Specify the arguments from the following values:

- *session-num*: In the range from 1 to 64
- *group-num*: In the range from 1 to 16
- *priority*: In the range from 1 (highest) to 4 (lowest)
- *local-port-num*: The VISM port number you want to use for the session
- *remote-port-num*: The call agent (remote) port number you want to use for the session

Note The following session configuration commands apply to a single session which is identified by the first argument, the *session-num*.

Step 4 Type the **cnfsesack** command, *session-num*, *ack-timeout*, and *max-acks* argument values, and press **Enter** to change the timeout period for sending out an acknowledgment and the maximum number of acknowledgments that can accumulated before sending them. Specify the arguments with the following values:

- *session-num*: In the range from 1 to 64
- *ack-timeout* (defined in milliseconds): In the range from 100 to 65535
- *max-acks*: In the range from 0 to 255

Step 5 Type the **cnfsesmaxreset** command, *session-num* and *max-resets* argument values, and press **Enter** to configure the maximum number of resets that VISM performs before a connection is reset. Specify the arguments with the following values:

- *session-num*: Type the value entered for the *session-num* argument in Step 4.
- *max-resets*: In the range from 0 to 255

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Step 6 Type the **cnfsesmaxseg** command, *session-num* and *seg-size* argument values, and press **Enter** to configure the maximum segment size VISM can receive after sending a SYN message. Specify the arguments with the following values:

- *session-num*: Type the value entered for the *session-num* argument in Step 4.
- *seg-size* (defined in octets): In the range from 30 to 65535

Step 7 Type the **cnfsesmaxwindow** command, *session-num* and *window-size* argument values, and press **Enter** to configure the maximum number of segments that can be sent without getting an acknowledgment for a specific RUDP session. Specify the arguments with the following values:

- *session-num*: Type the value entered for the *session-num* argument in Step 4.
- *window-size*: In the range from 1 to 64

Step 8 Type the **cnfsesnullsegtmout** command, *session-num* and *null-seg-tout* argument values, and press **Enter** to configure the amount of idle time before sending a null segment. Specify the arguments with the following values:

- *session-num*: Type the value entered for the *session-num* argument in Step 4.
- *null-seg-tout* (defined in milliseconds): In the range from 0 to 65535

Step 9 Type the **cnfsesoutofseq** command, *session-num* and *max-seq-pkts* argument values, and press **Enter** to configure the maximum number of out-of-sequence packets that will be accumulated before sending an EACK packet. Specify the arguments with the following values:

- *session-num*: Type the value entered for the *session-num* argument in Step 4.
- *max-seq-pkts*: In the range from 0 to 255.

Note If you specify 0 for the *max-seq-pkts* argument, a DACK message is sent immediately upon receiving an out-of-sequence packet.

Step 10 Type the **cnfsesport** command, *session-num*, *local-port-num*, and *remote-port-num* argument values, and press **Enter** to configure the local (VISM end) and remote (call agent end) port numbers for a session number. Specify the arguments with the following values:

- *session-num*: Type the value entered for the *session-num* argument in Step 4.
- *local-port-num*: In the range from 1124 to 65535
- *remote-port-num*: In the range from 1124 to 65535

This command allows the user to configure the local and remote port numbers.

Step 11 Type the **cnfsesretrans** command, *session-num*, *unack-timeout*, and *max-ses-retrans* argument values, and press **Enter** to configure the retransmission of unacknowledged packet timeout value and the maximum number of consecutive retransmission attempts before the connection is considered failed. Specify the arguments with the following values:

- *session-num*: Type the value entered for the *session-num* argument in Step 4.
- *unack-timeout* (in milliseconds): In the range from 100 to 65535
- *max-ses-retrans*: In the range from 0 to 255

Step 12 Type the **cnfsesstatetmout** command, *session-num* and *tstate-tout* argument values, and press **Enter** to configure the amount of time VISM waits for the transfer state before executing an auto reset. Specify the arguments with the following values:

- *session-num*: Type the value entered for the *session-num* argument in Step 4.
- *tstate-tout* (in milliseconds): In the range from 0 to 65535

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Step 13 Type the **cnfsessyncatmps** command, *session-num* and *max-sync-attempts* argument values, and press **Enter** to configure the maximum number of attempts to synchronize VISM with the call agent. Specify the arguments with the following values:

- *session-num*: Type the value entered for the *session-num* argument in Step 4.
- *max-sync-attempts*: In the range from 1 to 32

Step 14 Repeat Step 4 through Step 13 for all additional session numbers, as required for your application.

You have completed configuring ISDN PRI backhaul.

The basic configuration of your VISM cards is complete. Use the configuration instructions in this chapter to reconfigure VISM for your application needs as they change. Use the commands described in Chapter 5, "CLI Commands," to further configure your VISM cards, if necessary.

Configuring Additional VISM Features

The following features are available for users of VISM 3.0 and higher:

- Support for the MGCP 0.1 subset of the MGCP 1.0 protocol

  Note The restart method (RM) is not defined as part of the MGCP 0.1 subset, and is not supported.

- Verified MGCP 0.1 protocol compliance
- PBX CAS event delivery to a call agent using MGCP 0.1:
  - DTMF: Wink and ground start
  - MF: Wink
  - TFTP download of CAS variant state machine

  Note RFC 3064 CAS packages—BL, MS, and DT—are not supported.

- Interoperability enhancements:
  - Configurable codec strings (IANA naming conventions as well as customized ones)
  - Codec negotiation with configurable preference order
- Exponential backoff for:
  - XGCP retry timers
  - SRCP retry timers
  - Configurable per CAS variant
- DTMF Relay using Cisco-rtp (FRF-11 Annex A based)
- Enhancement to Fax/modem up-speed/pass-through procedures:
  - Configurable CAC failure and carrier loss policies
  - Up-speed to clear channel

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- Added support for G.726: 16, 24, 32, and 40 kbps, with packetization periods ranging from 10 to 40 ms
- Support for VBR-rt (variable bit rate real time) and VBR-nrt (non real time) ATM traffic classes, including traffic shaping to the relevant traffic descriptors
- Configurable VAD model parameter for traffic engineering
- In E1 applications, support for 31 DS0 per span and a total of 248 channels per card
- Tested CRTP support through RPM for voice and voice band data calls
- Verified bearer interoperability with 3810
- Switched PVCs using SGCP 1.5:
  - SDP and SGCP extensions allowing xGCP call agent control of AAL2 bearers
  - Support of SGCP 1.5 digit maps and error codes
- Support for card level coexistence of switched AAL2 mode (under Call Agent control) and trunked AAL2 mode on PVCs, on an endpoint (DS0) basis
- PBX CAS event delivery to a Call Agent using SGCP 1.5:
  - DTMF: Wink and ground start
  - MF: Wink
  - TFTP download of CAS variant state machine
- Interoperability and configuration enhancements:
  - Configurable codec strings (IANA naming conventions as well as customized ones)
  - Profile negotiation and configurable preference order
  - Configurable voice and VBD (for example, up-speed codec) per profile
- Added support for custom profile 110 and 200 (clear channel), ITU profiles 3 and 8
- User-configurable AAL2 Silence Indicator Description (SID) for all profiles
- Type 3 Packet Support for proxy ringback (xrbk), packet side bearer continuity check (co3/co4 COT), and midcall DTMF relay
- Connection admission control (CAC) enhancements:
  - Patented CAC method factoring in VAD and subcell multiplexing savings
  - Configurable VAD model parameter for traffic engineering
- Configurable AAL2 cell fill timer
- AAL2 alarm enhancements: per span, VC, and per channel (CID) conditioning
- Display, clear, and reset AAL2 performance related counters
- In E1 AAL2 trunking applications, support for 31 DS0 per span and a total of 248 channels per card
- Verified bearer interoperability with 3810 and third-party vendors
- Infrastructure work and enhanced support for three operating modes: VoIP switching, AAL2 trunking, and switched AAL2 PVC
- Graceful upgrade VISM 2.0 and 2.0(1) to VISM 2.1(0)
- The ability to enable or disable the call agent protocol SDP OST feature in the event the peer gateway may or may not support SDP OST. This feature allows interoperability with the Cisco AS5300 Universal Access Server and other equipment

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- The ability for VISM to perform as either the network or user side of the LAPD protocol for PRI backhaul
- CCS/PRI backhaul between VISM and a call agent in VoIP mode
- Support VoIP G.729ab compression
- Idle channel suppression
- Support for setting the IP precedence bit
- Support for Q.50 CAS signaling variant
- Negotiable packetization period
- AAL2 subcell multiplexing
- E1 back card support in AAL2 trunking mode
- E1 back card support (VoIP mode only)
- Provides 8 standard T1 interfaces with B8ZS, AMI and HDB3 line coding
- Support for voice over ATM using AAL2 cells (multiplexing only, no LLC/SNAP encapsulation.
- VoIP using AAL5 cells to RFC 1889
- Support for both PCM a-law and u-law
- Programmable 24, 32, 48, 64, 80, 96, 112, 128 ms near end echo cancellation
- Voice compression to G.711 and G.726-32k standards
- Nx64 clear channel (N = 1 only) support
- Voice activity detection (VAD) and comfort noise generation (CNG) using variable threshold energy (Cisco proprietary)
- Support for call agent Simple Gateway Control Protocol (SGCP) Version 1.0, SGCP 1.1+, and Media Gateway Control Protocol (MGCP) 0.1
- Support for CCS signaling transport across an AAL5 trunk
- Support for Fax and modem VoIP bearer transmissions
- Support for dual (redundant) virtual circuits across the packet network
- Support for full continuity testing (COT). Supports origination and terminating loopback and transponder COT towards the packet bearer and the TDM sides
- Support for loop timing, payload and line loopbacks
- 1:N cold redundancy using SRM-3T3 capabilities (bulk mode support for T1 lines only) for switched calls
- 1:N hot redundancy for trunking applications only
- Courtesy downing of ongoing voice calls when the VISM is taken out of service for maintenance or other reasons

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Mid-Call DTMF

The mid-call dual tone multifrequency (DTMF) feature enables the collection and notification of digits to the call agent following a call setup for an endpoint, and supports the outpulsing of DTMF digits at a call agent's request. This feature is used for services that require two stage dialing, such as calling card applications.

Mid-call DTMF is supported for all the CAS variants, for DTMF mode only.

Configurable Jitter Buffer

The configurable jitter buffer feature provides configuration of jitter buffer mode and initial delay time on a codec basis. Fax, modem, and CCD calls have less packet loss with the addition of this feature.

Adjustable Gain

The adjustable gain feature allows you to adjust gain on a DS0 channel basis for both input and output signals. The adjustable gain can be set when there is active call going on at the DS0 channel, and at both bounded non-active and unbounded endpoints.

Adjustable Music On-Hold Threshold

The adjustable music on-hold threshold feature allows you to adjust the dB level, on a DS0 basis, of when DSPs interpret TDM side silence or voice.

CALEA

The Commission on Accreditation for Law Enforcement Act (CALEA) feature, used with VoIP applications, provides data (eavesdropping) about an intercepted subject (the user/subscriber) in two forms for both the receive and transmit directions:

- Call identifying data
- Call content data

The call identifying data (called number) is provided by call agents. The call content data (voice) is provided by the edge/access routers (7200, for example) and trunking gateways (MGX 8000 series platforms) in combination with VISM cards.

The VISM CALEA implementation supports the CALEA law intercept confirmation interface.

MGC Redundancy

The media gateway controller (MGC) redundancy feature provides redundancy for call agents on VI SM cards. You can associate one or more call agents as members of a redundancy group.

An MGC redundancy group consists of one or more MGCs (which are identified by their domain name). An MGC can be part of one redundancy group, although there can be multiple MGCs per redundancy group. At any given time, only one MGC in the redundant group is active.

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This feature requires you to add more than one domain name and configure these as redundant call agents or the same logical MGC. Only the IP addresses corresponding to each physical entity are returned by the DNS server. In order to allow VISMs to traverse all the IP addresses, you must identify these physical entities as redundant call agents.

External DNS

The external domain name server (DNS) feature allows VISM to use an external DNS to resolve the IP address you configure. The domain names can be MGCs, call agents, or trivial file transfer protocol (TFTP) servers used for CAS file downloads. Resolution of IP addresses can be configured with the following methods:

- Internal static tables only
- External DNS only
- External DNS, followed by the internal static tables if the external DNS method fails
- Internal static tables, followed by the external DNS if the internal static table method fails

2 IP Address Support

The 2 IP address allows you to add separate IP addresses for the control and data paths for VISM. This feature removes the restriction of control and data traffic going to two different domains.

VoIP Trunking

The Voice over IP (VoIP) trunking feature allows the VISM to connect to the PBX, or central office digital systems, using T1/E1 digital interfaces and converts the TDM bit stream into RTP packets, after ECAN and compression, and transports it over the IP network.

No call agent is required for setting up and tearing down calls. You must configure the DS0 circuits. The connection between VISM and the first router will be ATM after which it will be IP only. VISM and the router can have one or multiple PVCs to transport the data. You have the option to configure PVC for bearer or control. If the PVC is configured as bearer and no control PVC exists, then PRI signal traffic and bearer traffic will go through this PVC. If you configure separate PVCs for control and bearer, PRI signaling will go through control traffic only. You can modify some of the connection parameters after it is added.

CAS is transported to the far end using a Cisco proprietary format (not NSEs). PRI is transported over RUDP to the far end once the trunk is provisioned between the originating and terminating VISM.

PRI transport is handled in a way identical to PRI backhaul except that the PRI traffic is sent to remote gateway instead of a call agent. You can configure one line for PRI trunking and another line for PRI backhauling.

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You must provision the LAPD trunk when using this feature. You must configure a line number, remote gateway IP address, local UDP port, and remote gateway UDP port, and then open a trunk. You must then configure the D-channel as a trunk or backhaul:

- To configure the D channel as trunk, use the **addlapdtrunk** command prior to the **addlapd** command. If the addlapd command has been previously executed for that line, the command is rejected.

Note Two D channels on one line are not supported.

- To configure the D channel as backhaul, use the **addses** command prior to the **addlapd** command. If you do not configure either trunk or session, the **addlapd** command is rejected.

T.38 Fax Relay

The ITU T.38 recommendation for fax relay feature assists fax transmission over IP networks. You must configure T.38 parameters—fax rate, information field size, data packet size, data redundancy, and NSF values—to use this feature.

Note You must use codec template 3 with the T.38 fax relay feature enabled. The T.38 feature supports 120 DS0s when enabled.

CAS Feature Enhancements

VISM Release 2.2 allows you to configure different CAS packages on different endpoints. The following CAS feature enhancements are also added to this release.

Programmable Tone Plans

This enhancement provides you the ability to provision a tone plan in a CAS independent scenario so that any inband call progress tone can be played on any endpoint (CAS, CCS, or clear channel) when signaled by the call agent.

VISM Release 3.0 contains the built-in (preconfigured) version 1 tone plans shown in Table 4-6, which you cannot modify or remove from the system.

Table 4-6 VISM 3.0 Built-in (Preconfigured) Tone Plans

Tone Plan	Tone Plan	Tone Plan	Tone Plan
ITU[1]	Finland	Japan	Singapore
North America	France	Korea Republic	Slovakia
Argentina	Germany	Luxembourg	Slovenia
Australia	Greece	Malaysia	South Africa
Austria	Hong Kong	Mexico	Spain
Belgium	Hungary	Netherlands	Sweden
Brazil	Iceland	New Zealand	Switzerland

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Table 4-6 VISM 3.0 Built-in (Preconfigured) Tone Plans (continued)

Tone Plan	Tone Plan	Tone Plan	Tone Plan
Canada	India	Norway	Taiwan
China	Indonesia	Philippines	Thailand
Cyprus	Ireland	Poland	Turkey
Czech Republic	Israel	Portugal	United Kingdom
Denmark	Italy	Russia	United States

1. ITU = International Telecommunications Union (formerly CCITT).

VISM Release 3.0 allows you to configure provisional tone plans if the built-in tone plans do not meet your application needs. Provisional tone plans are created by assigning new region/country, version, and file names, and configuring the following call progress tones:

- Ringback
- Busy
- Reorder/Congestion
- Dial
- Stutter dial
- Offhook alert/warning

Loop Start, DID, and Delay Dial

The exchange side (FXO) of the loop start protocol is implemented with this release. VISM can accept calls from, and terminate calls to, loop start PBXs. When a PBX sends a subscriber call to the gateway, it sends the loop close signal through the CAS signaling channel. To hang up, it sends the loop-open signal.

Direct inward dial enables a caller outside a company to call internal extensions without having to go through an operator or an attendant. VISM has this ability—it outpulses the digit stream handed down by the call agent.

Dial delay is an E&M signaling protocol similar to wink start. The originating VISM, on receiving a seize (AB=11) from the PBX, responds by sending the delay-dial (AB=11) signal back to the PBX. When the originating VISM is ready to collect the digits, it sends start-dial (AB=00) signal. This operation is symmetric. So the terminating VISM, on seizing a trunk, should receive AB=11 (as an acknowledgment that the trunk is operational). Subsequently when it receives the start signal (AB=00) from the connected PBX, it should outpulse the digits. The rest of the operation is similar to wink-start.

FGD

FGD enables long distance calls through one of the following methods:

- Preselected access carrier (AC) by dialing 1 + area code + number.
- Selecting the AC on a per call basis by dialing 101xxxx before the area code and phone number to within a local exchange carrier's (LEC) network in North America.

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FGD supports the following protocols:

- Terminating Protocol
- Equal Access North American (EANA)
- Operator Services (OS)

Configure Flash Hook and Glare Condition Attributes

You can configure both flash hook and glare condition attributes with VISM Release 2.2. Flash hook configuration allows you to modify the duration of a flash hook. Duration shorter or longer than that configured are interpreted as incoming calls and disconnects. Glare condition attribute configuration allows you to control the CAS direction—incoming, outgoing, or bidirectional—and the glare handling policy—controlling or releasing.

Configure ANI and DNIS Digit Order

You can configure the order in which a call agent sends automatic number identification (ANI) digits—the caller's number—and dial number identification service (DNIS) digits—the called number—to VISM during an outgoing Feature Group D (FGD) call for the endpoints of a specified VISM card line.

RFC 3064 Package Support

This release fully supports the following packages from RFC 3064:

- MS—MF single stage dialing trunks. This includes wink start and immediate start PBX DID/DOD trunks as well as basic R1 and FGD Terminating protocol.
- DT—Immediate start and basic DTMF and dial-pulse trunks.
- MD—North American MF FGD EANA and EAIN, which allows VISM to be at the end office, the carrier, or the tandem side of the circuit.
- MO—FGD Operator Services Signaling, outgoing trunks only.
- BL—DTMF and dial pulse (DP) basic PBX trunks.

RFC 2833 Support

Support for RFC 2833 enables VISM to support DTMF relay using named telephony events (NTEs), named signaling event (NSE) based relay, and Cisco-RTP based relay. For all other tones, VISM uses NSEs.

VISM Network Continuity Test

You can configure VISM network continuity testing with VISM Release 2.2(0).

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Configure PVC OAM Cell Parameters

This feature allows you to configure the transmitted and received permanent virtual circuit (PVC) Operations, Administration, and Maintenance (OAM) cell parameters—cell gap, recovery cell count, and unacknowledged cell count.

PXM1E and PXM45 Card-Only Features

Software Release 3.0(0) for VISM/VISM-PR introduces a new card—VISM-PR. You can use the VISM-PR card in combination with any of the following MGX 8000 Series switch Processor Module cards:

- PXM1
- PXM1E
- PXM45

Table 4-7 describes the configuration requirements for VISM/VISM-PR in combination with the MGX 8000 Series switches and supported processor modules.

Table 4-7 VISM/VISM-PR and MGX 8000 Series Switch Support

VISM Module	MGX 8230 with PXM1	MGX 8830 with PXM1E	MGX 8250 with PXM1	MGX 8850 with PXM1	MGX 8850 with PXM1E	MGX 8850 with PXM45
MGX-VISM-8T1	Yes	No	Yes	Yes	No	No
MGX-VISM-8E1	Yes	No	Yes	Yes	No	No
MGX-VISM-PR-8T1	Yes	Yes	Yes	Yes	Yes	Yes
MGX-VISM-PR-8E1	Yes	Yes	Yes	Yes	Yes	Yes

Refer to the *Cisco MGX 8850 Hardware Installation Guide, Release 3* for information on installing and maintaining the PXM1, PXM1E, and PXM45 cards.

Note You cannot use the VISM card in combination with either the PXM1E or PXM45 card.

The VISM-PR card supports 144 channels when used with the G.723.1 codec. The VISM card does not support the G.723.1 codec.

The following software Release 3.0(0) for VISM/VISM-PR features require either the PXM1E or PXM45 card and are not supported if you are using PXM1 cards in your MGX 8000 Series switch chassis:

- Call Agent-Controlled VoATM AAL1 and AAL2 SVC
- AAL1 SVC-Based TDM Hairpinning
- Expanded Clock Source Selection

Note Clock source configuration support and procedures are not changed from previous releases of software if you are using a PXM1 card in your MGX 8000 Series switch chassis.

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- Private Network-to-Network Interface Priority Routing
- Additional SPVC Connection Management Capabilities

Call Agent-Controlled VoATM AAL1 and AAL2 SVC

The following operating modes are supported with software Release 3.0(0) for VISM/VISM-PR:

- VoAAL1 switched virtual circuit (SVC), supported with the G.711 codec and clear channel.

Note VAD is not supported in combination with AAL1 SVCs.

- VoAAL2 SVC, supported with the G.711, G.726, G.729a, G.729ab, and G.723 codecs and ITU profiles 1, 2, 3, 7, 8, and custom profiles 100, 101, 110, and 200.

Note CAS is not supported in combination with switched virtual circuits.

Use the **cnfvismmode** command to configure VISM operating modes.

Note This feature requires you to use a PXM1E or PXM45 in your MGX 8000 Series switch chassis.

AAL1 SVC-Based TDM Hairpinning

VoAAL1 switched virtual circuit (SVC) operating mode is supported with the G.711 codec and clear channel. The AAL1 SVC operating mode supports TDM hairpinning.

Note VAD is not supported in combination with AAL1 SVCs. CAS is not supported in combination with SVCs

Use the **cnfvismmode** command to configure VISM operating modes.

Note This feature requires you to use a PXM1E or PXM45 in your MGX 8000 Series switch chassis.

High Complexity Codec Support for VISM-PR—G.723.1

The VISM-PR card supports high complexity codec G.723.1 in template number 4. Template number 4 supports all the codecs in template number 3 and the following:

- G.723.1 high rate (6.3Kbps)—G.723.1-H
- G.723.1 high rate with VAD—G.723.1a-H
- G.723.1 low rate (5.3Kbps)—G.723.1-L
- G.723.1 low rate with VAD—G.723.1a-L

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The G.723.1 codec, used in combination with the VISM-PR card, supports 144 channels. Refer to Table 4-3 for a description of VISM-PR DS0 density when the cards are used in combination with supported codecs.

Several CLI commands have been modified to allow you to use the G.723.1 codec and template number 4.

Note The G.723.1 codecs are not supported for VISM cards.

Announcement File System

This release allows VISM to play prerecorded local announcements in switched VoIP connections. Under the control of a call agent, announcements can be played toward any IP endpoint or toward any VISM endpoint.

Up to 125 different announcements may be cached on the VISM card for immediate playout. A persistent announcement storage area exists in the packet network. Announcements are downloaded on demand from the announcement storage area and remain on the VISM card until they have reached expiry or are replaced. If the 125 announcement maximum is reached, subsequent requests for announcements not on the VISM card result in the replacement of “cached” announcements.

Announcements can be played over established connections in any VISM supported codec, but they must exist on the announcement file server in the desired encoding.

Note You must play announcements in the exact codec in which they have been recorded.

VISM announcements require the support of the MGCP 0.1/1.0 call agent.

Announcement Timeouts

VISM uses a provisionable timeout value of 5 seconds. If an announcement cannot start playing within the timeout value of receiving the request, the action is canceled and, if requested by the call agent, an “of” event is reported. If the call agent specifies a timeout value in the request, this value will be ignored.

Announcement Direction

Announcements can be played toward the packet network or toward the TDM network (not both). The direction is determined by the notation of the MGCP S: line. Announcement direction examples:

```
S: a/ann(all-lines-busy.au)
```

Explanation Indicates that all-lines-busy.au is to be played toward the TDM network.

```
S: a/ann@connid(all-lines-busy.au)
```

Explanation Indicates that all-lines-busy.au is to be played toward the packet network.

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Broadcast Announcements

VISM supports announcement requests for a single endpoint or connection. The request may only specify a single announcement to be played on a single endpoint in a single direction. Broadcast announcements are not supported.

Multiple Announcement Requests for the Same Endpoint

If an announcement is being played on an endpoint (in one direction) and a subsequent announcement request is received for the same endpoint (in the same direction), the playing announcement will continue and the new announcement request is ignored.

If an announcement is being played on an endpoint (in one direction) and a subsequent announcement request is received for the same endpoint (in the other direction), the playing announcement is stopped and the new announcement is then played. Events are not generated for the stopped announcement.

Announcement File Server

Announcements are contained in an announcement file server, which resides on an IP network reachable from the VISM using Trivial File Transfer Protocol (TFTP).

Announcement File Server Name

You can configure the announcement file server node name on the VISM the same way that you configure a node name for the TFTP server.

Announcement File Server Directory Structure

You may use any directory or path on the file server as the main directory for storing announcement files. If you do not provision an announcement path prefix on VISM, the main announcement file directory is the default TFTP directory on the server. If a path prefix is provisioned, this prefix is used as the main announcement directory. If the prefix is not absolute (does not begin with a forward slash (/)), the prefix is relative to the default TFTP directory.

You can configure codec subdirectories under the main announcement directory on the announcement file server. A codec subdirectory exists for each codec used for announcement files.The subdirectories may be one or more of the following:

- g711u/
- g711a/
- g726_32k/
- g726_24k/
- g726_16k/
- g729_a/
- g7231_high_rate/
- g7231_a_high_rate/
- g7231_low_rate/
- g7231_a_low_rate/

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When the call agent requests that an announcement is to be played toward the TDM network on an unconnected endpoint, you can specify the codec to be used.

Another level of directories might be configured to group announcement files by language. These directories would be specified by the call agent (or when provisioning the VISM) as part of the announcement file name. For example, the call agent might specify the announcement file name to be english/ann1.au. If the file was encoded in G.729a and the prefix was /tftpboot, the file would reside at /tftpboot/g729_a/english/ann1.au.

VISM Announcement Cache Management

VISM maintains an announcement cache in resident memory. When an announcement is requested to be played, it is retrieved from the announcement file server and placed in the on-board announcement cache. Subsequent requests for the same announcement do not require retrieval of the announcement file from the announcement file server.

Note An announcement in one encoding is a different file than the same announcement in a different encoding.

Announcement Expiry

You can provision an announcement aging policy. Once an announcement has aged (reached expiry) in the on-board cache, it is refreshed—retrieved again from the announcement file server. This provides you with the means to balance the cost of file server access with the time before an announcement changed on the file server is propagated to the VISM. In addition, you can delete dynamic files from the announcement cache at any time.

Permanent Announcements

You can provision permanent announcements for VISM. A permanent announcement is retrieved from the announcement file server and installed permanently in the VISM announcement file cache. Permanent announcements are excluded from aging (and being automatically refreshed) and excluded from being replaced if the announcement cache becomes full. Permanent announcements can only be removed from the cache explicitly by using a CLI command. If VISM is reset or fails over to a standby card, permanent announcements are retrieved as soon as the card becomes active. The announcement encoding must be specified when provisioning or deleting permanent announcements.

Use the CLI commands in Table 4-8 to configure the announcement file system feature.

Table 4-8 Announcement File System Feature CLI Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.

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Table 4-8 Announcement File System Feature CLI Commands (continued)

Command	Description
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.
dspannreqtimeout	Displays the expiration time for announcements to begin playing before being aborted.

Call Agent-Controlled T.38 Fax

The call agent-controlled T.38 fax feature is an additional operational mode for MGCP 1.0 to request T.38. This addition allows VISM to interoperate with H.323 and non-Cisco gateways, and is supported for VoIP calls. This feature is activated based on the fax tone and signaling carried with the call agent. The modified **cnft38fxlco** command allows you to configure the local connection option fax preamble response to off. All previous options are valid.

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Additional Support for MGCP 1.0

This release expands the support for the Media Gateway Control Protocol (MGCP) 1.0, which was introduced in VISM 2.2. The following are implemented for the MGCP 1.0 feature support:

- Restart in Progress command disconnect procedure wait delay timer value specification for the following:
  - Initial
  - Minimum
  - Maximum
- Call agent redundancy group protocol configuration for the following:
  - Quarantine handling method for persistent events
  - Default quarantine handling method for each protocol
  - Ability to keep events from previous lists, until explicitly requested to be removed
  - Ability to send provisional responses
  - Ability to send response acknowledgments
  - Ability to provide a disconnect method
  - Ability to cancel previously issued graceful restart commands

Use the CLI commands in Table 4-9 to configure the MGCP 1.0 feature.

Table 4-9 MGCP 1.0 Feature CLI Commands

Command	Description
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfdisctimers	Specifies the wait delay times for the disconnected procedure, restart in progress command—initial, minimum, and maximum timer values.
cnfmgcgrpprotocol	Configures call agent group protocol data.
cnfxgcppeer	Configures the UDP port number used to send gateway-initiated messages to the call agent.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspdisctimers	Displays the Restart in Progress command disconnect type method wait delay times.

RSVP-Based Admission Control

Resource Reservation Protocol (RSVP)-based admission control signaling with MGCP is supported, which allows for quality VoIP connections. For the connections, the RSVP-MGCP interaction results in the following:

- Establish or originate unidirectional resource reservation for sending voice packets for connections established and controlled by MGCP.
- Accept unidirectional resource reservations for receiving voice packets from MGCP controlled connections.

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- Tear down originated or established unidirectional resource reservations.
- Tear down accepted resource reservations.

Note VISM supports RSVP in the VoIP switching operating mode only, with a 5 calls per second limitation; RSVP is not supported in the VoIP trunking operating mode.

In previous releases of VISM software, the following connection data is returned in response to the call agent initiated DLCX, and gateway initiated DLCX or AUCX commands:

- Number of packets sent
- Number of octets sent
- Number of packets received
- Number of octets received

VISM Release 3.0(0) provides the following additional connection data:

- Number of packets lost
- Inter-arrival jitter—If a DSP is configured to operate in the adaptive jitter buffer mode, the jitter data provided indicates the delay that the jitter-algorithm is adapted to. If a DSP is configured to operate in the fixed jitter buffer mode, the jitter data provided indicates the value that was configured when the channel was opened.

  Note For adaptive mode you can use the value to indicate that the configured initial delay value is too low or too high, since the algorithm adapts according to the actual network jitter.

- Average transmission delay (latency)

Use the commands in Table 4-10 to configure the RSVP-based admission control feature.

Table 4-10 RSVP-Based Admission Control Feature CLI Commands

Command	Description
cnfrsvp	Configures RSVP for a specified connection.
cnfrsvprefreshmiss	Configures the number of times VISM waits for a missed RSVP minimum refresh message for a specified connection.

Clock Slip Counters

The clock counter information feature allows you to clear the current frame slip counters for a specified VISM or VISM-PR card line and display the current frame slip counters for a specified VISM or VISM-PR card line. Use the new **clrslipcnt** and **dspslipcnt** to use this feature.

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RTP Connection Statistics

Real-Time Transport Protocol (RTP) connection statistics are collected for individual endpoints and sent to the call agent. Use the new **dsprtpconnstat** command to display collected RTP connection statistics.

Jitter delay data collection at call completion is on a per call basis. Jitter delay data and number of packets sent and received, and number of octets sent and received, are reported to the call agent through MGCP.

CAS Immediate Start and Ground Start Glare Handling

CAS Immediate Start—The CAS variants immediate start and immediate start, multifrequency are supported. Use the **addcasvar** command to configure CAS variants.

Note The immediate start protocol does not define glare handling procedures—do not use the immediate start protocol on incoming or outgoing endpoints only. Endpoints are added as bidirectional by default. To make them incoming or outgoing, use the **cnfcasglarepolicy** command. If the endpoints are left as bidirectional, configured for immediate start operation, and glare occurs, the results may be unpredictable.

Ground Start Glare Handling—This release supports CAS glare condition handling according to RFC 3064. The VISM sends a NACK message in response to the call agent's request for ringing with error code 401 (off hook) in the event of a glare condition.

On receiving the request for ringing from call control, CAS transmits a seize signal to the PBX and starts the glare timer, returning a provisional response code to call control indicating that CAS is still processing the request. If the timer expires (normal case) or an incoming seizure is observed on the endpoint, CAS generates an asynchronous response code to call control that is comparable to an MGCP response code of 200 or 401, respectively.

Grooming for Local Traffic

VISM supports the call agent controlled grooming feature. Grooming allows VISM to avoid routing local traffic through the IP network. Voice packets from a local connection are switched locally in the ATM switch.

A call agent determines if a call needs to be setup as local. To set up a local call, the call agent selects an ATM connection over a VoIP connection. The VISM card, as a gateway, receives the connection request message from the call agent for an ATM connection. The VISM card allows VoIP calls and VoAAL1 SVC calls to coexist and allows provisioning of VoIP and ATM simultaneously.

To achieve this, VISM uses VoIP and Switched ATM AAL1 SVC as local switching mode. VISM receives an ATM AAL1 SVC call setup request from the call agent for local calls.

You must use the **cnfvismmode** command and select the VoIP and switched ATM AAL1 SVC operating mode to use the grooming feature. Using this mode does not change any other settings on your card. The type of connection for a call is determined by the connection request (CRCX) from the call agent or by the bearer type configuration.

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MGX 8000 Series Implementation Enhancements

The following enhancements are supported with this release to you with additional implementation of your MGX 8000 Series switch:

- Additional VBR Enhancements
- Expanded Clock Source Selection
- Private Network-to-Network Interface Priority Routing
- Additional SPVC Connection Management Capabilities
- 192 T1/248 E1 DS0 Support with High Complexity Codecs on VISM-PR
- Channel Alarm Enhancement
- VISM TDM Line Statistics Collection

Additional VBR Enhancements

Setting connections between a VISM-PR card and a RPM-PR card in your MGX 8000 Series switch chassis requires you to use the new VBR (NRT) 3 connection type. Use the modified **addcon** or **cnfcon** commands to configure this connection type. In addition, the following new connection service types can be configured with the modified commands in this release:

- VBR (RT) 2
- VBR (RT) 3
- VBR (NRT) 2

Expanded Clock Source Selection

This release supports an expanded clock source selection, which allows you to configure any VISM-PR card line as the clock source. You cannot delete a VISM-PR line that is configured as the clock source; you must configure a different line as the clock source and then you can delete the original clock source line. The previously released CLI commands allow you to use this feature.

Note This feature requires you to use a PXM1E or PXM45 in your MGX 8000 Series switch chassis.

Private Network-to-Network Interface Priority Routing

This release supports the Private Network-to-Network Interface (PNNI) routing priority feature. This feature allows you to specify connections with a routing priority. The PNNI controller uses your configuration selections to route the higher priority connections before routing the lower priority connections. Use the **cnfpncon** command to configure a routing priority for a specified connection.

Note This feature requires you to use a PXM1E or PXM45 in your MGX 8000 Series switch chassis.

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Additional SPVC Connection Management Capabilities

Use the PXM1E or the PXM 45 card in combination with the VISM-PR card in an MGX 8000 Series switch chassis to specify a connection up or down. Specifying a connection up allows you to direct traffic to the specified connection. Specifying a connection down allows you to prevent traffic from being directed to a specified connection. Use the **upcon** and **dncon** commands to use this feature.

Note This feature requires you to use a PXM1E or PXM45 in your MGX 8000 Series switch chassis.

192 T1/248 E1 DS0 Support with High Complexity Codecs on VISM-PR

VISM-PR T1 lines support up to 192 DS0 channels and VISM-PR E1 lines support up to 248 DS0 channels, with clear channel and the following codec types:

- G.711
- G.726
- G.729a
- G.729ab

Table 4-3 describes the VISM/VISM-PR DS0 density when the cards are used in combination with clear channel and the supported codecs.

Table 11 VISM/VISM-PR DS0 Density with Codec Support

	VISM		VISM-PR	
Codec	**T1**	**E1**	**T1**	**E1**
G.711	192	248	192	248
G.723.1	—	—	144	144
G.726	145	145	192	248
G.729a/ab	145	145	192	248
Clear channel	192	248	192	248

Channel Alarm Enhancement

The channel alarm enhancement feature uses the modified **dspconcnt** command, which allows you to view the channel status bit map data.

VISM TDM Line Statistics Collection

This release allows you to configure VISM to collect Time Division Multiplex (TDM) line statistics. Use the **dspalmcnt** command to collect and display TDM line statistics. Use the **cnfalmcnt** command to configure the thresholds for TDM line statistics.

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CHAPTER 5

CLI Commands

Command line interface (CLI) commands allow you to configure, manage, and troubleshoot VISM to enable your applications.

The VISM CLI commands are described in the remainder of this chapter and are arranged in alphabetical order.

For information on how to access and use the CLI commands, see Chapter 4, “Configuring VISM Features.”

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?

To display some or all commands associated with the current card, use the **?** command in the VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC operating modes.

?

Syntax Description

This command has no arguments.

Command Modes

VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

You can enter a complete or partial command name. If you do not type the name of a command, the entire command list is displayed.

Related Commands

Command	Description
Help	Displays commands associated with the current card.

Examples

The following example shows a list of all commands that contain the string ecan—a partial command name:

```
? ecan

Available commands
------------------
cnfecancnf
cnfecannoise
cnfecannr
cnfecanrec
cnfecantail
```


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addannpermanent

To configure an announcement server file and associated codec type as permanent, use the **addannpermanent** command in the VoIP switching operating mode.

addannpermanent *ann-index ann-filename ann-codec-type*

Syntax Description

ann-index	Announcement file server index number which you assign to identify a permanent announcement server file. It can be in the range from 1 to 125.
ann-filename	Announcement filename. It can be from 1 to 64 alphanumeric characters, including the following symbols—period (.), forward slash (/), underscore (_), and hyphen (-).
ann-codec-type	Announcement filename associated codec. It can be one of the following values: • 1 = G.711u • 2 = G.711a • 3 = G.726-32k • 4 = G.729a • 5 = G.729ab • 7 = G.726-16k • 8 = G.726-24k • 9 = G.726-40k • 11 = G.723-H • 12 = G.723.1a-H • 13 = G.723.1-L • 14 = G.723.1a-L

Command Modes

VoIP switching

Usage Guidelines

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

Examples

The following example shows that index server number 19 is configured with the femalezero1 file in the G.726-40K codec:

```
addannpermanent 19 femalezero1 9
```


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Related Commands

Command	Description
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.

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addcasvar

To add a channel associated signaling (CAS) variant to a VISM card, name the CAS variant file, and optionally set the source of the file, use the **addcasvar** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

addcasvar *var-name file-name* |*source*|

Syntax Description

var-name	Name of the CAS variant; a text string of 1 to 64 alphanumeric characters.
file-name	Name of the file that contains the signal definition for the CAS variant. It can be one of the following values: • **wink_did_dod.o** = wink start • **ground_start.o** = ground start • **wink_did_dod_mf.o** = wink start multifrequency • **q50.o** = Q.50 • **basic_pbx.o** = • **fgd_ea_incoming.o** = for endpoints connected to an end office • **fgd_ea_outgoing.o** = for endpoints connected to an access carrier • **fgd_os_e911.o** = for endpoints connected to FDG OSS (Feature group D operator services system) • **loop_start.o** = loop start • **delay_did_dod.o** = dial delay, DTMF • **delay_did_dod_mf.o** = dial delay, MF • **immed_did_dod.o** = immediate start • **immed_did_dod_mf.o** = immediate start, MF • In the range from 1 to 32 alphanumeric characters—user-configured files only **Note** Immediate start is not supported in VISM Release 2.2(0).
source	(Optional) CAS variant file location. It can be one of the following values: • 1 = Unspecified. If TFTP domain is configured, the location is the TFTP server. If not found in the TFTP server, the file is treated as built-in. • 2 = User-configured (built-in) file location. • 3 = External—resides on the TFTP server.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

A file containing the variant information must be downloaded to the Cisco MGX 8000 Series platform PXM card, using a separate application (such as TFTP), before you can execute this command. This command downloads the specified file from the PXM card and configures the CAS variant on the VISM card based upon the information in the file. You can use this command at any time to add a new CAS variant.

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Examples

The following example shows that a wink start CAS variant called casvar is added to a VISM card based upon information contained in the wink_did_dod.o file, which is located in the internal (built-in) location:

```
addcasvar casvar wink_did_dod.o 2
```

Related Commands

Command	Description
cnfcasvar	Configures CAS variant and CAS timing parameters for a variant already created with the **addcasvar** command.
delcasvar	Deletes a CAS variant.
dspcasvar	Displays information about CAS variants for a given variant name.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.

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addccs

To add a common channel signaling (CCS) channel (D channel) to a VISM card, use the **addccs** command in the switched AAL2 PVC and AAL2 trunking operating modes.

addccs *line-num ds0-num lcn*

Syntax Description

line-num	Line number of the channel to be added in the range from 1 to 8.
ds0-num	DS0 number of the channel to be added. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines
lcn	Logical channel number of the CCS channel to be added in the range from 131 to 510.

Command Modes

Switched AAL2 PVC and AAL2 trunking

Usage Guidelines

To use this command, you must select CCS signaling on the specified line with the **cnflnsig** command. When you execute this command, a value called ds0IfIndex is displayed, which is used to identify the CCS channel in subsequent CCS-related commands.

Examples

The following example shows that a CCS D channel is added to line 1, DS0 20, logical channel number 200:

```
addccs 1 20 200
```

Related Commands

Command	Description
delccs	Deletes the association between a CCS (DS0) channel and its corresponding virtual channel.
dspccs	Displays the properties of a previously added CCS channel.

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addcid

To add an AAL2 channel identifier (CID) on a VISM card, use the **addcid** command in the AAL2 trunking operating mode.

addcid *endpt-num lcn cid-num codec-type profile-type profile-num |vad-enable vad-init-timer ecan-enable type-3-red cas-trans dtmf-trans idle-code-sup pkt-period|*

Syntax Description

endpt-num	The endpoint number which is to be related to the LCN/CID pair being added. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
lcn	The logical channel number (LCN) of the LCN/CID pair in the range from 131 to 510.
cid-num	The channel identification number of the LCN/CID pair in the range from 8 to 255.

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codec-type	The type of coding/decoding to be performed on the data stream. It can be one of the following values: • 1 = G.711u • 2 = G.711a • 3 = G.726-32k • 4 = G.729a • 5 = G.729ab • 6 = Clear channel (VAD must be off) • 7 = G.726-16k • 8 = G.726-24k • 9 = G.726-40k • 11 = G.723-H • 12 = G.723a-H • 13 = G.723.1-L • 14 = G.723.1a-L
profile-type	(Optional) The profile type to be used for the CID. It can be one of the following values: • 1 = International Telecommunication Union (ITU) I.366.2 • 3 = Custom **Note** If *profile-type* and *profile-num* argument values are both 1, you cannot turn VAD on.
profile-num	(Optional) Number of the profile. It can be one of the following values: • 1 = ITU profile type • 2 = ITU profile type • 3 = ITU profile type • 7 = ITU profile type • 8 = ITU profile type • 12 = ITU profile type • 100 = custom profile types • 101 = custom profile types • 110 = custom profile types • 200 = custom profile types
|*vad-enable*|	(Optional) Enables or disables voice activity detection (VAD). It can be one of the following values: 1 = On 2 = Off **Note** If you type 1 for both the *profile-type* and *profile-num* argument values, VAD cannot be turned on.

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|*vad-init-timer*|	(Optional) The VAD initial (holdover) timer in the range from 250 to 65535 ms. Default = 250.
|*ecan-enable*|	(Optional) Enables or disables echo cancellation (ECAN). It can be one of the following values: • 1 = On • 2 = Off
|*type-3-red*|	(Optional) Enables or disables triple redundancy protection for type 3 packets. It can be one of the following values: • 1 = On • 2 = Off **Note** If you select 1 for this argument value, either the *cas-trans* or *dtmf-trans* argument value must be set to 1 (on).
|*cas-trans*|	(Optional) Enables or disables channel associated signaling (CAS) transport as AAL2 type3 packets. It can be one of the following values: 1 = On (Default) 2 = Off This parameter does not affect any inbound signaling.
|*dtmf-trans*|	(Optional) Enables or disables DTMF tone transport as AAL2 type 3 packets. It can be one of the following values: 1 = On (Default) 2 = Off **Note** The *dtmf-trans* argument value must be set to 1 (on) when the *codec-type* is configured for codecs other than G.711 and G.726.
|*idle-code-sup*|	(Optional) Enables or disables idle code suppression for the CID. It can be one of the following values: 1 = On 2 = Off
|*pkt-period*|	(Optional) Packetization period (defined in milliseconds). Applies only to G.729a compression. It can be the following value: • 10 **Note** The *pkt-period* argument applies only to G.729a compression (*codec-type* argument value = 4). If you have selected any other compression value, ignore this argument.

Command Modes

AAL2 trunking

Usage Guidelines

This command establishes a relationship between an endpoint and an LCN/CID pair. The endpoint is bound to a DS0 and the CID binds a DS0 to a logical channel—ensuring an endpoint-to-endpoint trunk. The following conditions must be met before you use this command:

- A previously added endpoint must exist.
- PVC must be of bearer type and provisioned using the **addcon** command.

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- The current DSP template must contain the desired codec type.

This command can be used on an endpoint that has no associated CAS variant. However, if a CAS variant is specified for the endpoint, it must be Q.50 variant (file q50.o)—the only CAS variant supported by this command.

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

Examples

The following example creates a CID for endpoint 10, LCN 140, with a CID number of 10. The codec type is 2 (G.711a), profile type is 1 (ITU), profile number is 1 (ITU), VAD is 1 (on), VAD holdover is 300 milliseconds, type 3 redundancy is 1 (on), CAS transport is 1 (on), DTMF transport is 1 (on), idle code suppression is 1 (on) and the packet period is 10 milliseconds.

```
addcid 10 140 10 2 1 1 1 300 1 1 1 10
```

Related Commands

Command	Description
delcid	Deletes the association between an endpoint and an LCN/CID pair.
dspcid	Displays the argument values of an AAL2 CID on a VISM card.
dspcids	Displays all the AAL2 CIDs for a specified LCN on a VISM card.

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addcon

To add a permanent virtual circuit (PVC) connection between a VISM card and any service module (SM) or PXM card, use the **addcon** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

addcon *local-vci pref-level pvc-conn-type conn-app peak-cell-rate conn-type |remote-conn-id service-type sus-cell-rate max-burst-rate|*

Syntax Description

local-vci	Local virtual channel identifier (VCI) to be used for the connection in the range from 131 to 510. The value you enter for this argument is also used as the LCN.
pref-level	Preference level of the local VCI. It can be one of the following values: • 1 = Primary • 2 = Secondary
pvc-conn-type	AAL type of connection. It can be one of the following values: • 1 = AAL5 • 2 = AAL2 • 3 = AAL1
conn-app	The connection's application. It can be one of the following values: • 1 = Control • 2 = Bearer • 3 = Signaling **Note** If the connection is used for bearer and signaling, specify 2 for bearer.
peak-cell-rate	Peak cell rate (described in cells per second). It can be a value from one of the following ranges: • 1 to 80000 for VoIP bearer • 1 to 20000 for VoIP control • 1 to 50000 for AAL2 T1 • 1 to 60000 for AAL2 E1 • 1 to 400 for AAL2 signaling (trunking) • 1 to 90000 for AAL5 bearer • 1 to 10000 for AAL5 control **Note** The *peak-cell-rate* argument value must be 15 or greater if the *service-type* argument value is a variable bit rate selection.
conn-type	Connection type. It can be one of the following values: • 1 = Master • 2 = Slave (Default)
remote-conn-id	(Optional) Remote connection identifier. Specify this argument with the following format: nodename.slot.port.vpi.vci **Note** This argument is used only when the *conn-type* argument is set to 1 (master).

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service-type	(Optional) Service type. It can be one of the following values: • 1 = Constant bit rate (CBR) • 2 = Variable bit rate real time, VBR (RT) • 3 = Variable bit rate non-real time, VBR (NRT) • 4 = VBR (RT) 3 • 5 = VBR (RT) 2 • 6 = VBR (NRT) 2 • 7 = VBR (NRT) 3 **Note** Use value 7 for VISM-PR to RPM-PR connections.
sus-cell-rate	(Optional) Sustainable cell rate (defined in cells per second). It can be in the range from 15 to the value you configured for the *peak-cell-rate* argument value. **Note** This argument value is required if the *service-type* argument value is in the range from 2 to 7.
max-burst-rate	(Optional) Maximum burst size—maximum number of cells transmitted at the peak cell rate. It can be in the range from 1 cell to 10 times the value you configured for the *sus-cell-rate* argument value. **Note** This argument value is required if the *service-type* argument value is in the range from 2 to 7.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

You must execute the **addport** and **addrscprtn** commands before you use this command.

If you are using this command with the VoIP switching/trunking operating mode and dual PVCs, you must add the primary channel before the secondary channel.

If you are using this command with the AAL2 trunking operating mode, the *pvc-conn-type* argument value must be 1 (AAL5) for signaling and 2 (AAL2) for a bearer channel.

This command requires you to configure the PVC connections in the following ways for the different operating modes:

- VoIP switching/trunking operating mode **addcon** command configuration requirements:
  - One AAL5 PVC connection with an optional secondary AAL5 PVC connection.
- AAL2 trunking operating mode **addcon** command configuration requirements:
  - One AAL2 connection and up to 63 additional optional AAL2 connections to each remote location.
  - Up to eight AAL5 connections for CCS signaling across the trunk, if your application requires CCS.
- Switched AAL2 PVC operating mode **addcon** command configuration requirements:
  - One AAL2 connection.
  - One AAL5 connection for communication with the call agent and external DNS.

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Examples

The following example adds a master connection as the primary channel using AAL2 for bearer traffic. The local VCI is 160 and the remote end is named node1 in slot 4, port 2 with a VPI/VCI of 223/223. The service type is CBR, the sustainable call rate is 500 cps, and the maximum burst rate is 6000 cells.

```
addcon 160 1 2 2 1000 1 node1.4.2.223.223 1 500 6000
```

After you execute this command, a typical local connection ID appears as node 1.5.1.0.160, where 160 is the added LCN.

Related Commands

Command	Description
cnfcalea	Enables or disables the CALEA feature on the current VISM card.
cnfcon	Configures a connection between a VISM card and an MGX 8000 Series platform PXM card.
cnfconprotect	Configures protection on a connection (PVC).
delcon	Deletes a connection (PVC) between a VISM card and a Cisco MGX 8000 Series platform PXM card.
dspcalea	Displays the CALEA feature configuration status of the current VISM card.
dspcon	Displays the parameters for a specified channel.
dspcons	Displays channel information for all configured connections on a VISM card.
dspvismparam	Displays the current VISM card configuration.

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addconloop

To set a cellbus connection to local loopback state on a current card, use the **addconloop** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

addconloop *lcn*

Syntax Description

lcn	Logical channel number of the CCS channel to be added in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example places the channel number 132 in loopback state:

```
addconloop 132
```

Related Commands

Command	Description
delconloop	Deletes a local loopback state on a VISM line.

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adddn

To add a domain name (call agent name, TFTP server name, domain name server (DNS) name, or announcement server name) and optionally configure the resolution type of the domain name, use the **adddn** command in the VoIP switching/trunking, and switched AAL2 PVC operating modes.

adddn *domain-num domain-name* |*resol-type*|

Syntax Description

domain-num	Domain number used to identify the domain in the range from 1 to 11.
domain-name	Call agent name. A text string of 1 to 64 alphanumeric characters.
resol-type	(Optional) Resolution type to configure for the specified domain name. It can be one of the following values: • 1 = Internal only. You must statistically provision all IP addresses on the VISM card for the domain name. The VISM card does not resolve the domain name using an external domain name server (DNS). • 2 = External only. The VISM card attempts to resolve the domain name using an external DNS. Statistically configured IP addresses for this domain name are not used. • 3 = Internal first. The VISM card attempts to resolve the domain name using an external DNS. The VISM card uses the statistically provisioned IP addresses for this domain name before using IP addresses from external resolution. • 4 = External first. The VISM card attempts to resolve the domain name using an external DNS. The VISM card uses IP addresses from external resolution before using the statistically provisioned IP addresses.

Command Modes

VoIP switching/trunking, switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that a call agent domain name, main, with a domain number of 3 is assigned the internal first resolution type (3):

```
adddn 3 main 3
```

Related Commands

Command	Description
adddnip	Adds the IP addresses for a domain name that you added by using the **adddn** command.
cnfdn	Configures the resolution type of a specified domain name.
cnfdnssrvr	Designates a domain name as a DNS.
deldn	Deletes a domain name.
deldnip	Deletes a statistically provisioned IP address of a domain name.

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Command	Description
dspdn	Displays the argument values of a call agent's domain number.
dspdnallips	Displays all statistically provisioned IP addresses and externally resolved IP addresses for all domain names configured on the current VISM card.
dspdnips	Displays all statistically provisioned and externally resolved IP addresses configured for a specified domain name.
dspdns	Displays the configuration data of all domain names of a call agent.
dspdnssrvr	Displays the domain name of the configured DNS of the current VISM card.

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adddnip

To add the IP addresses for a domain name that you added by using the **adddn** command, use the **adddnip** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

adddnip *resol-num domain-name ip-addr addr-order*

Syntax Description

resol-num	Resolution number of the domain name. It can be in the range from 1 to 88.
domain-name	Call agent name. A text string of 1 to 64 alphanumeric characters.
ip-addr	IP address which corresponds to the *domain-name* argument value. It must be in the following format: nnn.nnn.nnn.nnn.
addr-order	IP address resolution preference order in the range from 1 (highest) to 8. **Note** The preference order must be unique for all IP addresses in the call agent name you specify with the *domain-name* argument.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that resolution number 22 is configured for domain name callagent35, with IP address 209.165.200.224, and an address resolution preference order of 7 (low):

```
adddnip 22 callagent35 209.165.200.224 7
```

Related Commands

Command	Description
adddn	Adds a domain name (call agent name) and optionally configures the resolution type of the domain name.
cnfdn	Configures the resolution type of a specified domain name.
cnfdnssrvr	Designates a domain name as a DNS.
deldn	Deletes a domain name.
deldnip	Deletes a statistically provisioned IP address of a domain name.
dspdnallips	Displays all statistically provisioned IP addresses and externally resolved IP addresses for all domain names configured on the current VISM card.
dspdnips	Displays all statistically provisioned and externally resolved IP addresses configured for a specified domain name.
dspdns	Displays the configuration data of all domain names of a call agent.
dspdnssrvr	Displays the domain name of the configured DNS of the current VISM card.

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addendpt

To add an endpoint on a VISM card line, use the **addendpt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

addendpt *endpt-num ds1-num ds0-num*

Syntax Description

endpt-num	Endpoint number. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
ds1-num	Physical line number in the range from 1 to 8.
ds0-num	DS0 configured for the *endpt-num* value. It can be a value from one of the following ranges: • For T1 lines, from 1 to 24 • For non-CAS E1 lines, from 1 to 31 • For CAS E1 lines, from 1 to 15 and 17 to 31

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

The endpoint on VISM is a logical port that consists of one DS0. The argument values entered in this command create an endpoint ID (*endpt-num*) which is required by the call agent for sending the xGCP Create Connection command (CRCX) to a VISM card. You can only configure bearer DS0s as endpoints to a previously added line.

Note The endpoint number is not equal to the DS0 number of the associated time slot. For example, endpoint 1 could be associated with DS011.

If your application requires the VoIP switching/trunking operating mode, you must add the IP address for VISM with the **cnfvismip** command before endpoints can be added.

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This command sends an RSIP message to each associated call agent indicating that the endpoint is in service.

Examples

The following example adds an endpoint with the number 120, on line 5, DS0 number 5:

```
addendpt 120 5 5
```

Related Commands

Command	Description
addendpts	Adds multiple sequential endpoints to a VISM card.
delendpt	Deletes a specified endpoint on a VISM card.
dspendpt	Displays information about a specified endpoint on a VISM card.
dspendpts	Displays information about all the endpoints on a VISM card.

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addendptloop

To place an endpoint in a loopback condition in the TDM direction, use the **addendptloop** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

addendptloop *endpt-num*

Syntax Description

endpt-num	Endpoint number. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example adds an endpoint loopback to endpoint 120:

```
addendptloop 120
```

Related Commands

Command	Description
delendptloop	Takes an endpoint out of a loopback condition.

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addendpts

To add multiple consecutive number of endpoints with a single command, use the **addendpts** command in the VoIP switching/trunking, switched AAL2 PVC, AAL2 trunking, and switched ATM AAL1 SVC operating modes.

addendpts *start-endpt start-line-num start-ds0-num endpt-quantity*

Syntax Description

start-endpt	First endpoint number of a range of consecutive endpoints. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
start-line-num	Line number to which the endpoints are added. In the range from 1 to 8.

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start-ds0-num	DS0 number to which the endpoints are added. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for non-CAS E1 lines • 1 to 15 and 17 to 31 for CAS E1 lines
endpt-quantity	The quantity of endpoints added. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

VoIP switching/trunking, switched AAL2 PVC, AAL2 trunking, and switched ATM AAL1 SVC

Usage Guidelines

Note If you are running a VoIP application, you must use the **cnfvismip** command before you can add endpoints.

This command adds a specified number of consecutive endpoints starting at a specified endpoint number, line number, and DS0 number. As endpoints are added, the command uses the next available (not added) endpoint numbers and DS0s. The command does not wrap around DS0 and endpoint numbers.

Note The endpoint number is not equal to the DS0 number of the associated time slot. For example, endpoint 1 could be associated with DS011.

Ensure that there are enough lines and DS0s before you add endpoints with this command. If you attempt to add more endpoints than are available, only the available endpoints are added. For example, if T1 line 1 is the only line enabled and you attempt to add 25 endpoints, only 24 endpoints are added. Your terminal display shows the actual number of endpoints added.

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This command sends an RSIP message to each associated call agent indicating that the endpoints are in service.

Examples

The following example shows that 12 consecutive endpoints are added to line 1, starting at endpoint number 6, DS0 number 12:

```
addendpts 6 1 12 12
```

Related Commands

Command	Description
delendpts	Deletes a consecutive number of endpoints on the VISM card.
dspendpts	Displays information about all endpoints on a VISM card.

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addlapd

To add a Link Access Protocol D channel (LAPD) from a specified DS0 to a VISM card, use the **addlapd** command in VoIP switching/trunking operating mode.

addlapd *line-num ds0-num* |*lapd-side lapd-app-type*|

Syntax Description

line-num	Line number of the channel to which you want to add an ISDN D channel. In the range from 1 to 8.
ds0-num	DS0 number of the channel to which you want to add an ISDN D channel. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines
lapd-side	(Optional) The side of the LAPD link. It can be one of the following values: • 1 = Network (Default) • 2 = User
lapd-app-type	(Optional) Application type of the LAPD ISDN D channel. It can be one of the following values: 1 = PRI (Default) 2 = GR-303 (currently unsupported)

Command Modes

VoIP switching/trunking

Usage Guidelines

You must complete the following before using this command:

- Specify the line as CCS.
- Ensure that the DS0 is available.
- Create a session group and session to a call agent.

Use this command when the specified channel is backhauled to the call agent.

Examples

The following example shows that an ISDN PRI D channel is added to line 2 and DS0 7 on the network side:

```
addlapd 2 7 1 1
```

Related Commands

Command	Description
dellapd	Deletes an LAPD.
dsplapd	Displays information about an LAPD.
dsplapds	Displays information about all LAPD.

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addlapdtrunk

To add a Link Access Protocol D channel (LAPD) trunk to a specific VISM card line, use the **addlapdtrunk** command in the VoIP switching/trunking operating mode.

addlapdtrunk *line-num lapd-rudp-num*

Syntax Description

line-num	Line number of the T1 or E1 line in the range from 1 to 8.
lapd-rudp-num	LAPD RUDP number in the range from 1 to 64.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the LAPD RUDP number 1 is added to VISM card line number 2:

```
addlapdtrunk 2 1
```

Related Commands

Command	Description
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.

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Command	Description
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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addln

To add a T1 or E1 line to a VISM card, use the **addln** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

addln *line-num*

Syntax Description

line-num	Line number of the T1 or E1 line to be added in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that line number 1 is added to a VISM card:

```
addln 1
```

Related Commands

Command	Description
cnfln	Configures line characteristics for a specified line.
delln	Deletes a DS1 line on a VISM card.
dspln	Displays the characteristics of a specified line.

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addlnloop

To set a specified line of the current card to the local loopback state, use the **addlnloop** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

addlnloop *line-num*

Syntax Description

line-num	Line number of the T1 or E1 line to be added in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Note The VISM CLI has no specific command for setting a line to a remote loopback state. To set a line to remote loopback state, use the **cnfbert** command on the PXM card. Refer to MGX 8000 Series platform command line interface guides for more information.

Examples

The following example adds a local line loopback state to line 1:

```
addlnloop 1
```

Related Commands

Command	Description
dellnloop	Deletes a T1 or E1 local line loopback state for the VISM card.

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addmgcgrpentry

To configure a call agent as part of a media gateway controller (MGC) redundancy group and assign a priority value for the call agent, use the **addmgcgrpentry** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

addmgcgrpentry *mgc-group mgc-num mgc-preference*

Syntax Description

mgc-group	Call agent redundancy group number. It can be in the range from 1 to 8.
mgc-num	Call agent identification number. It can be in the range from 1 to 8.
mgc-preference	Call agent preference value—The preference of the MGC within the group. It can be in the range from 1 (highest) to 8. (Default = 1)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

You must add a call agent to a call agent redundancy group regardless of the absence of additional call agents in the redundancy group.

Use the **dspmgcgrpparams** command to verify call agent redundancy group configuration data.

Examples

The following example shows that call agent redundancy group number 1 is configured with the call agent number 5, and assigned a priority level of 3:

```
addmgcgrpentry 1 5 3
```

Related Commands

Command	Description
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfmgcgrpentry	Modifies the call agent priority level of a call agent within a call agent redundancy group.
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
cnfsrcppeer	Configures the SRCP parameters when SRCP is the selected protocol for communication between the VISM card and call agent.
cnfsrcppeergrpparam	Modifies the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group.
delmgcgrpentry	Deletes a call agent from a call agent redundancy group.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspmgcgrpparams	Displays all configured call agent redundancy group parameters.
dspmgcgrpprotocols	Displays all configured call agent redundancy group protocols.
dspmgcgrps	Displays all configured call agent redundancy groups.
dspsrcppeergrpparams	Displays the SRCP parameters for all call agent redundancy groups that have SRCP added.

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addmgcgrpprotocol

To associate a call agent redundancy group with a gateway control protocol (xGCP) and configure call agent group protocol control data, use the **addmgcgrpprotocol** command in the VoIP switching/trunking and switched AAL2 PVC operating mode.

addmgcgrpprotocol *red-mgc-group protocol-num quar-persist default-quar del-negated prov-resp resp-ack disc-proc-enable cancel-grace*

Syntax Description

red-mgc-group	Call agent redundancy group number. It can be in the range from 1 to 8.
protocol-num	Protocol number. It can be one of the following values: • 1 = MGCP 0.1 • 2 = SGCP 1.1+ • 3 = SRCP 1.0.2 • 4 = SGCP 1.5 • 5 = MGCP 1.0
quar-persist	(Optional) Sets the quarantine handling method for persistent events. It can be one of the following values: • 1 = Quarantine persistent events (Default) • 2 = Do not quarantine persistent events
default-quar	(Optional) Sets the default quarantine handling method for each protocol. It can be one of the following values: • 1 = Step, process (Default for MGCP 1.0) • 2 = Step, discard (Default for MGCP 0.1, SGCP 1.1+, SRCP 1.0.2, and SGCP 1.5) • 3 = Loop, process • 4 = Loop, discard **Note** Step = one notification command is generated per notification request. Loop = multiple notification commands are generated per notification request.
del-negated	(Optional) • 1 = Delete events from the previous list which are not present in the current list. • 2 = Delete events from the previous list, only if the event is present in the current list with a hyphen (-) as the parameter.
prov-resp	(Optional) Enables or disables the sending of a provisional response. It can be one of the following values: 1 = On (Default for MGCP 1.0) 2 = Off (Default for MGCP 0.1, SGCP 1.1+, SRCP 1.0.2, and SGCP 1.5)

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resp-ack	(Optional) Enables or disables sending a response acknowledgment. It can be one of the following values: • 1 = On (Default for MGCP 1.0) • 2 = Off (Default for MGCP 0.1, SGCP 1.1+, SRCP 1.0.2, and SGCP 1.5)
disc-proc-enable	(Optional) Enables or disables the disconnect method, which indicates that the endpoint has become disconnected and is now trying to establish connectivity. It can be one of the following values: • 1 = On (Default for MGCP 1.0) • 2 = Off (Default for MGCP 0.1, SGCP 1.1+, SRCP 1.0.2, and SGCP 1.5)
cancel-grace	(Optional) Enables or disables VISM cancelling a previously issued graceful restart in progress command. It can be one of the following values: • 1 = On (Default for MGCP 1.0) • 2 = Off (Default for MGCP 0.1, SGCP 1.1+, SRCP 1.0.2, and SGCP 1.5)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

This command allows you to add multiple protocols to the same redundancy group.

Examples

The following example shows that call agent redundancy group number 3 is assigned gateway control protocol number 2, SGCP 1.1+:

```
addmgcgrpprotocol 3 2
```

Related Commands

Command	Description
addmgcgrpentry	Configures call agents as part of an MGC redundancy group and assigns a priority value for a call agent.
cnfdisctimers	Specifies the wait delay times for the disconnected procedure, restart in progress command—initial, minimum, and maximum timer values.
cnfmgcgrpentry	Modifies the call agent priority level of a call agent within a call agent redundancy group.
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
cnfmgcgrpprotocol	Configures call agent group protocol data.
cnfsrcppeer	Configures the SRCP parameters when SRCP is the selected protocol for communication between the VISM card and call agent.
cnfsrcppeergrpparam	Modifies the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group.
delmgcgrpentry	Deletes a call agent from a call agent redundancy group.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspdisctimers	Displays the Restart in Progress command disconnect type method wait delay times.

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Command	Description
dspmgcgrpparams	Displays all configured call agent redundancy group parameters.
dspmgcgrpprotocols	Displays all configured call agent redundancy group protocols.
dspmgcprps	Displays all configured call agent redundancy groups.
dspsrcppeergrpparams	Displays the SRCP parameters for all call agent redundancy groups that have SRCP added.

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addport

To add a virtual port between the VISM and PXM cards, use the **addport** command in the VoIP switching/trunking, switched AAL2 PVC, AAL2 trunking, AAL1 SVC, AAL2 SVC, and AAL1/VoIP (for TDM grooming) operating modes.

addport

Syntax Description

This command has no arguments.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, AAL2 trunking, AAL1 SVC, AAL2 SVC, and AAL1/VoIP (for TDM grooming)

Usage Guidelines

This command automatically associates the VISM card and the virtual port with the MGX 8000 Series platform.

Note If the VISM card is reset after executing this command but before executing the **addrscprtn** command, an error message is displayed. The error has no effect on the system and can be ignored.

The port number is set to one of the following when you use this command:

- 1—for PXM1 cards
- 255—for PXM1E cards

Examples

The following example shows that a virtual port has been added between the VISM and PXM cards:

```
addport
```

Related Commands

Command	Description
delport	Deletes a VISM port on the packet network side.

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addrscprtn

To add a resource partition for a virtual port, use the **addrscprtn** command in the VoIP switching/trunking, switched AAL2 PVC, AAL2 trunking, AAL1 SVC, AAL2 SVC, and AAL1/VoIP (for TDM grooming) operating modes.

addrscprtn *control-id*

Syntax Description

control-id	The controller identification number to which the resource partition is added. It can be one of the following: • 1—for a PXM1 card • 2—for a PXM1E or PXM45 card • In the range from 3 to 255

Command Modes

VoIP switching/trunking, switched AAL2 PVC, AAL2 trunking, AAL1 SVC, AAL2 SVC, and AAL1/VoIP (for TDM grooming)

Usage Guidelines

You must configure a virtual port with the **addport** command before you use this command.

Note If the VISM card is reset after executing an **addport** command but before using this command, an error message is displayed. The error has no effect on the system and can be ignored.

If you are using a PXM1 card, this command adds an entry with resource partition number 1. If you are using a PXM1E card, this command adds the entries with resource partition numbers 225 and 2, respectively.

Examples

The following example shows that a resource partition is added to controller number 2:

```
addrscprtn 1
```

Related Commands

Command	Description
delrscprtn	Deletes a resource partition.
dsprscprtn	Displays information about a resource partition.

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addrtpcon

To add a static Real-Time Transport Protocol (RTP) VoIP trunking connection, use the **addrtpcon** command in the VoIP switching/trunking operating mode.

addrtpcon *conn-num endpt-num local-rtp-port remote-rtp-port remote-ip-addr codec-type |vt-pkt-period bearer-prec bearer-tos conn-mode ecan-enable vad-enable vad-timer cas-trans dtmf-trans idle-code-sup|*

Syntax Description

conn-num	Connection identification number. It can be in the range from 1 to 248.
endpt-num	Endpoint number. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
local-rtp-port	Static RTP local port number. It can be an even number in the range from 49648 to 50142. **Note** The odd numbers within the *local-rtp-port* range are reserved for Real-Time Conferencing Protocol (RTCP) ports.
remote-rtp-port	Static RTP remote port number. It can be an even number in the range from 16384 to 50142. **Note** The odd numbers within the *remote-rtp-port* range are reserved for RTCP ports.
remote-ip-addr	IP address of the remote VISM card, in dotted decimal format (nnn.nnn.nnn.nnn).

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codec-type	The type of coding/decoding to be performed on the data stream. It can be one of the following values: • 1 = G.711u • 2 = G.711a • 3 = G.726-32k • 4 = G.729a • 5 = G.729ab • 6 = Clear channel (VAD must be off) • 7 = G.726-16k • 8 = G.726-24k • 9 = G.726-40k • 11 = G.723.1-H • 12 = G.723.1a-H • 13 = G.723.1-L • 14 = G.723.1a-L
vt-pkt-period	(Optional) Packetization period (defined in milliseconds). It can be one of the following values: • 10 • 20 • 30 • 40 • 60
bearer-prec	(Optional) Bearer precedence. It can be in the range from 0 to 7. (Default = 5)
bearer-tos	(Optional) Bearer type of service (ToS). It can be one of the following values: • 0 (Default) • 1 • 2 • 4 • 8
conn-mode	(Optional) Connection mode. It can be one of the following values: • 1 = VISM sends packets • 2 = VISM receives packets • 3 = VISM sends and receives packets (Default) • 4 = Inactive; VISM does not send or receive packets
ecan-enable	(Optional) Enables or disables echo cancellation (ECAN). It can be one of the following values: • 1 = On (Default) • 2 = Off

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vad-enable	(Optional) Enables or disables voice activity detection (VAD). It can be one of the following values: • 1 = On • 2 = Off (Default)
vad-timer	(Optional) The VAD holdover timer (defined in milliseconds) in the range from 250 to 65535.
cas-trans	(Optional) Enables or disables CAS signaling transport. It can be one of the following values: • 1 = On (Default) • 2 = Off
dtmf-trans	(Optional) Enables or disables DTMF tone transport. It can be one of the following values: • 1 = On (Default) • 2 = Off **Note** The *dtmf-trans* argument value must be set to 1 (on) when the *codec-type* is configured for codecs other than G.711 and G.726.
idle-code-sup	(Optional) Enables or disables idle code suppression for the channel identifier (CID). It can be one of the following values: • 1 = On • 2 = Off (Default)

Command Modes

VoIP switching/trunking

Usage Guidelines

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

Examples

The following example shows that the RTP trunking connection 26 is added and configured with endpoint number 200, static RTP local port number 50000, static RTP remote port number 49648, remote IP address 209.165.200.224, G.726/32 codec type, 20-ms packetization period, bearer precedence of 3, bearer ToS of 1, VISM sends and receives packets, ECAN and VAD enabled, 400-ms VAD holdover time, CAS transportation enabled, DTMF tone transportation, idle code suppression for CID enabled:

```
addrtpcon 26 200 50000 49648 209.165.200.224 3 20 3 1 3 1 1 400 1 1 1
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.

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Command	Description
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpconnstat	Displays the RTP connection statistics for a specified endpoint.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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addrudptrunk

To add an ISDN PRI backhaul Reliable User Datagram Protocol (RUDP) session for a Link Access Protocol D channel (LAPD) trunk connection, use the **addrudptrunk** command in the VoIP switching/trunking operating mode.

addrudptrunk *session-num lport-num rport-num remote-ip-addr*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.
lport-num	Local port number. It can be in the range from 1124 to 49151.
rport-num	Remote port number. It can be in the range from 1124 to 49151.
remote-ip-addr	IP address of the remote VISM card, in dotted decimal format (nnn.nnn.nnn.nnn).

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the ISDN PRI backhaul RUDP session number 40 is added to the LAPD trunk connection with local port 1024, remote port 2006, and remote IP address 209.165.200.244:

```
addrudptrunk 40 1024 2006 209.165.200.244
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.

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Command	Description
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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addses

To add a PRI backhaul session between a VISM card and a call agent, use the **addses** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

addses *session-num group-num priority local-port-num remote-port-num*

Syntax Description

session-num	Identifying session number in the range from 1 to 64. **Note** Up to 64 sessions can be created in a session group.
group-num	Identifying session group number to which the session is added in the range from 1 to 16. **Note** Currently, only group 1 is supported.
priority	Priority level; determines which session becomes active if a session fails within the same group. It can be in the range from 1 (highest) to 4 (lowest).
local-port-num	Local port number. The VISM port number used for the session. It can be in the range from 1124 to 65535.
remote-port-num	Remote port number. The call agent port number used for the session. It can be in the range from 1124 to 65535.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

You must add a session group for the session before you use this command.

Examples

The following example shows that PRI backhaul session number 4 is added to session group 2 between the VISM card and the callagent1 call agent:

```
addses 4 2 2 1124 1124
```

Related Commands

Command	Description
delses	Deletes a PRI backhaul session.
dspses	Displays information about a PRI backhaul session.
dspsess	Displays information about all PRI backhaul sessions.

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addsesgrp

To add a PRI backhaul session group between a VISM card and a call agent, use the **addsesgrp** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

addsesgrp *group-num set-num mgc-name*

Syntax Description

group-num	Identifying session group number in the range from 1 to 16.
set-num	In the range from 1 to 8. **Note** Currently, only session set number 1 is supported.
mgc-name	Domain name of the call agent, a text string from 1 to 64 alphanumeric characters.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Specify the following:

- The set number to which the group belongs.
- The call agent the group's sessions are to be associated.

Examples

The following example shows that the PRI backhaul session group 2 is added between the VISM card and the Jack call agent to session set number 1:

```
addsesgrp 2 1 Jack
```

Related Commands

Command	Description
delsesgrp	Deletes a PRI backhaul session group.

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addsesset

To add a PRI backhaul session set between a VISM card and a call agent, use the **addsesset** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

addsesset *set-num fault-tol-enable*

Syntax Description

set-num	In the range from 1 to 16. **Note** Currently, only session set number 1 is supported.
fault-tol-enable	Enable or disables fault tolerance. It can be one of the following values: • 1 = Yes • 2 = No

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

The *set-num* argument value must be set to 1.

Examples

The following example shows that the PRI backhaul session set number 1 is added between a VISM card and a call agent:

```
addsesset 1
```

Related Commands

Command	Description
delsesset	Deletes a PRI backhaul session set.

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addtoneplan

To add a provisional tone plan to the current VISM card, use the **addtoneplan** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

addtoneplan *tonep-region tonep-version tonep-file*

Syntax Description

tonep-region	Tone plan country or region which you want to add to VISM. It can be in the range from 1 to 64 alphanumeric characters and can contain underscores (_). This value is case sensitive.
tonep-version	Tone plan version number of the tone plan country or region you are adding to VISM. It can be in the range from 1 to 65535.
tonep-file	Tone plan file name (names are located in the TFTP server /TFTPBOOT directory). It can be in the range from 1 to 32 alphanumeric characters and can contain underscores (_), dashes (-), and dots (.).

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

You must complete the following steps before using this command:

Step 1 Place the new tone plan in the TFTP server /TFTPBOOT directory.

Step 2 Use the **adddn** command to add the TFTP server domain name to the VISM card.

Step 3 Use the **adddnip** command to add the IP address of the TFTP server domain name.

Step 4 Use the **cnftftpdn** command to configure the parameters of the TFTP server domain name.

The addition and configuration of the TFTP domain name is complete. You can now use the **addtoneplan** command.

Note Provisional tone plans are those that you create. Built-in, or preconfigured, tone plans cannot be added with this command. Built-in tone plans are added to the system automatically upon boot up.

You can add a maximum of 32 provisional tone plans to the system. You must create provisional tone plan files with the following format:

```
System Section
version 1
description "Tone Plan defined for xxxx"
Tone Section
dial_tone 1, 2, 3, 4, 5, 6, 7
busy_tone 1, 2, 3, 4, 5, 6, 7, 8, 9, 0
stutter_tone 1, 2, 3
dtmf_digit 1, 2
```


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There is no restriction on the file name or extension of your tone plan definition file, but it must not exceed the maximum input size of the CLI command. Both the "System Section" and the "Tone Section" terms are mandatory keywords when creating tone plans. Use the "System Section" to define tone plans. Use the "Tone Section" to define call progress tones. Specify each tone on a separate line and use white spaces as delimiters. The syntax of the tone plan definition file defines call progress tones and must be specified in the following order and on the same line (see Table 5-1 for syntax value options):

tone-name num-of-freq-comp comp-1-freq comp-1-amp |comp-2-freq comp-2-amp| cadence-1-on cadence-1-off |cadence-2-on cadence-2-off cadence-3-on cadence-3-off cadence-4-on cadence-4-off|

Table 5-1 Tone Plan Definition File Syntax

Syntax Item	Description
tone-name	Identifies the tone. It can be one of the following values: • **dial_tone** • **stutter_tone** • **busy_tone** • **fast_busy_tone** • **ring_back_tone** • **alert_tone**
num-of-freq-comp	Number of frequency components. It can be one of the following values: • 1 • 2 **Note** You must specify the frequency and amplitude of all frequency components using the following four arguments.
comp-1-freq	Frequency of component 1, specified in Hz.
comp-1-amp[1]	Amplitude of component 1, specified according to the following formula: 46348 * 10 to the power of dbm0/20 It can be in the range from 1 to 65535.
comp-2-freq	(Optional) Frequency of component 2, specified in Hz.
comp-2-amp[1]	(Optional) Amplitude of component 2, specified according to the following formula: 46348 * 10 to the power of dbm0/20 It can be in the range from 1 to 65535.
cadence-1-on	The first on time that the tone plays, defined in milliseconds.
cadence-1-off	The first off time that the tone does not play, defined in milliseconds.
cadence-2-on	(Optional) The second on time that the tone plays, defined in milliseconds.
cadence-2-off	(Optional) The second off time that the tone does not play, defined in milliseconds.
cadence-3-on	(Optional) The third on time that the tone plays, defined in milliseconds.
cadence-3-off	(Optional) The third off time that the tone does not play, defined in milliseconds.

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Table 5-1 Tone Plan Definition File Syntax (continued)

Syntax Item	Description
cadence-4-on	(Optional) The fourth on time that the tone plays, defined in milliseconds.
cadence-4-off	(Optional) The fourth off time that the tone does not play, defined in milliseconds.

1. To specify amplitudes of DTMF and MFR1 tones, you must use the following syntax: **dtmf_digit** amp-low amp-high or **mf_r1_digit** amp-low amp-high. The amp-low value = low group frequency. The amp-high value = high group frequency.

Note If you do not specify the amplitudes of DTMF or MFR1 tones, the default value of 16384 (–9 dBm) is applied.

The appropriate tone plan file, with associated region and version, is downloaded, parsed, and stored in memory when you use this command.

Examples

The following example shows that the tone plan file name singp_3, with region singapore and version number 11, is added to the current VISM card:

```
addtoneplan singapore 11 singp_3
```

Related Commands

Command	Description
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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addxgcppersistevt

To add persistent xGCP (various gateway control protocol) events, use the **addxgcppersistevt** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

addxgcppersistevt *event-num pkg-event*

Syntax Description

event-num	The persistent event index package event number in the range from 1 to 64.
pkg-event	The xGCP package and event string listed as persistent. It can be one of the following: • r/co3 = VISM initiated AAL2 type 3 packet (CO3) network continuity test • r/co4 = Network continuity test detect • g/ft = Fax tone • g/mt = Modem tone • g/vbd = Voiceband data • g/vbdt = Voiceband data termination • l/hu, bl/hu = On hook • l/hd, blhd = Off hook • ms/ans, dt/ans, md/ans, mo/ans = Answer • ms/sup, dt/sup, md/sup = Setup • ms/rel, dt/rel, md/rel, mo/rel = Release • ms/rtc, dt/rlc, md/rlc, mo/rlc = Release complete • ms/res, dt/res, md/res = Resume • ms/sus, dt/sus, md/sus = Suspend • md/awk = Acknowledgment wink • mo/rbz = Reverse make busy

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

This command notifies the call agent of the specified event without the need for a xGCP notification request. There are no persistent xGCP events by default. Only valid xGCP strings (described in the *pkg-event* syntax description list) can be configured with this command.

Examples

The following example shows that the persistent event index number 1 is added for the voiceband data package:

```
addxgcppersistevt 1 g/vbd
```


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Related Commands

Command	Description
cnfcasflashtime	Configures the minimum and maximum CAS on-hook time periods for incoming flash hooks on a specified endpoint.
cnfcasglareattrib	Configures the direction of CAS calls and the glare policy for a specified endpoint.
cnfcaspackage	Configures MGCP packages to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
cnflndigitorder	Assigns the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.
delxgcppersistevt	Deletes a persistent xGCP event.
dspcasglareattrib	Displays the direction of CAS calls and the glare policy for a specified endpoint.
dspcaspackage	Displays the MGCP packages configured to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
dspcastimers	Displays the currently configured CAS timers for a specified endpoint.
dsplndigitorder	Displays the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.

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cc

To navigate from the current (logged on) card to another card in the MGX 8000 Series platform, use the **cc** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cc *slot-num*

Syntax Description

slot-num	The slot number in the MGX 8000 Series platform that contains the card you want to access and configure. It can be in the range from 1 to 32.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

When you execute this command, the card residing in the slot identified by the *slot-num* value becomes active and is identified in the command line prompt. If there is no card in the slot identified by the *slot-num* value, an error message is displayed on your terminal.

Examples

The following example shows that the card in slot 22 was active, and now the card in slot 11 is active:

```
node1.1.22.VISM.a > cc 11

node1.1.11.VISM.a >
```

Related Commands

There are no related commands.

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chkflash

To verify the integrity of a VISM card's flash memory, use the **chkflash** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

chkflash

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example verifies the current VISM card's flash memory:

```
chkflash
```

Related Commands

There are no related commands.

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clralm

To clear alarms on a specific VISM card line, use the **clralm** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

clralm -ds1 *line-num*

Syntax Description

-ds1	The mandatory *line-num* argument identifier.
line-num	Line number in which to clear alarms. In the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

This command clears alarms caused by the collection of statistical data. Alarms caused by network failure cannot be cleared by using this command. For example, an alarm caused by a collection of bipolar errors can be cleared, but an alarm caused by a line failure cannot. Alarms that occur after you execute this command are not affected.

Examples

The following example shows that any alarms caused by statistical data are cleared from line 1:

```
clralm -ds1 1
```

Related Commands

Command	Description
clralms	Clears alarms on a VISM card.
dspalm	Displays the alarms associated with a specified line.
dspalms	Displays all alarms for the selected line type (T1 or E1) on a card.

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clralmcnt

To clear the alarm counters and statistics on a specified VISM line, use the **clralmcnt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

clralmcnt -ds1 *line-num*

Syntax Description

-ds1	The mandatory *line-num* argument identifier.
line-num	Line number for which to clear alarm counters and statistics. In the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

All counters are reset to 0 when you use this command.

Examples

The following example clears alarm counters and statistics from line 1:

```
clralmcnt -ds1 1
```

Related Commands

Command	Description
clralmcnts	Clears all alarm counters and statistics on a VISM card.
dspalmcnt	Displays the alarm counters and statistics on a line.

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clralmcnts

To clear all the alarm counters and statistics on a VISM card, use the **clralmcnts** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

clralmcnts

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

All counters are reset to 0 after you execute this command. The terminal display does not indicate a response to this command.

Examples

The following example shows that the alarm counters and statistics are removed for the current VISM card:

```
clralmcnts
```

Related Commands

Command	Description
clralmcnt	Clears the alarm counters and statistics on a VISM line.
dspalmcnt	Displays the alarm counters and statistics for the current VISM card.

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clralms

To clear alarms on a VISM card, use the **clralms** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

clralms

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

This command can clear alarms caused only by the collection of statistical data. Alarms caused by network failure cannot be cleared. For example, an alarm caused by a collection of bipolar errors can be cleared, but an alarm caused by a line failure cannot. Alarms occurring after this command executes are not affected.

Examples

The following example shows that the alarms are cleared on the current VISM card:

```
clralms
```

Related Commands

Command	Description
clralm	Clears alarms on a specific line of a VISM card.
dspalm	Displays the alarms associated with a specified line.
dspalms	Displays all alarms for the selected line type on a VISM card.

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clrcacfailcntrs

To reset all connection admission control (CAC) failure statistics to 0, use the **clrcacfailcntrs** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

clrcacfailcntrs

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

This command is used for debugging purposes to reset counters and isolate any VISM CAC-related failures. Counter values more than zero indicate that the gateway is low on resources.

Examples

The following example shows that the CAC failure statistics are reset to 0:

```
clrcacfailcntrs
```

Related Commands

Command	Description
dspcacfailcntrs	Displays all CAC failure statistics that are reset to 0.

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clrmngcidcnt

To clear AAL2 channel identifier (CID) counters, use the **clrmngcidcnt** command in the switched AAL2 PVC and AAL2 trunking operating modes.

clrmngcidcnt *endpt-num*

Syntax Description

endpt-num	The endpoint number for which the AAL2 counters are cleared. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

Switched AAL2 PVC and AAL2 trunking

Usage Guidelines

Indicate the endpoint number you want to clear AAL2 counters for with the *endpt-num* argument value.

Examples

The following example shows that the AAL2 counters for endpoint number 140 are cleared:

```
clrmngcidcnt 140
```

Related Commands

Command	Description
dspcid	Displays a VISM card's AAL2 channel identifier.
dspcids	Displays a VISM card's AAL2 channel identifiers for a specified LCN.

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clrrtpcnt

To clear the Real-Time Transport Protocol (RTP) counters (statistics) for a specific static RTP connection, as shown by the **dsprtpcnt** command, use the **clrrtpcnt** command in the VoIP switching/trunking operating mode.

clrrtpcnt *conn-num*

Syntax Description

conn-num	Connection identification number. It can be in the range from 1 to 248.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the RTP counters for static RTP connection number 49 are cleared:

```
clrrtpcnt 49
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpconnstat	Displays the RTP connection statistics for a specified endpoint.

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Command	Description
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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clrsarcnt

To clear the segmentation and reassembly (SAR) counters on a channel, use the **clrsarcnt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

clrsarcnt *lcn*

Syntax Description

lcn	Logical channel number for which the SAR counters are to be cleared, in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Indicate the channel number you want to clear SAR counters for with an *lcn* argument value.

Examples

The following example shows that the SAR counters are cleared on channel 140:

```
clrsarcnt 140
```

Related Commands

Command	Description
dspsarcnt	Display the values of the SAR counters for a specified channel.

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clrsarcnts

To clear all segmentation and reassembly (SAR) counters on a VISM card, use the **clrsarcnts** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

clrsarcnts

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures when you use this command.

Examples

The following example shows that all SAR counters on the current VISM card are cleared:

```
clrsarcnts
```

Related Commands

Command	Description
clrsarcnt	Clears the SAR counters on a specified channel.
dspsarcnt	Displays the SAR counter values for a specified channel.
dspsarcnts	Displays the SAR counter values for a VISM card.

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clrsarmsgcnt

To clear the control message counters from a VISM card, use the **clrsarmsgcnt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

clrsarmsgcnt

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures when you use this command.

Examples

The following example shows that the SAR control message counters are cleared from the current VISM card:

```
clrsarmsgcnt
```

Related Commands

Command	Description
dspsarmsgcnt	Displays the SAR control message counter values for a VISM card.

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clrscrn

To clear the control terminal screen, use the **clrscrn** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

clrscrn

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

After you execute this command, only the current command line prompt appears on the screen.

Examples

The following example shows that your control terminal screen is cleared, other than the current command line prompt:

```
clrscrn
```

Related Commands

There are no related commands.

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clrslipcnt

To clear current clock slip counters for a specified VISM card line, use the **clrslipcnt** command in the VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC trunking operating modes.

clrslipcnt *line-num*

Syntax Description

line-num	Line number of the DS1 line for which you want to clear current clock slip counters. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the current clock slip counters for line 3 of the current VISM card are cleared:

```
clrslipcnt 3

Line 3 Slip Counters:   Tx Slip   Rx Slip
Uncontrolled Slip:      0         0
Frame Slip:             0         2
```

Related Commands

Command	Description
dspslipcnt	Displays the current clock slip counters for a specified VISM card line.

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clrtaskinfo

To reset the values displayed by the **dsptaskinfo** command, use the **clrtaskinfo** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

clrtaskinfo

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

When you execute this command, the values are reset to 0 and the collection of the task information statistics begins again.

Examples

The following example shows that values displayed by the **dsptaskinfo** command are reset:

```
clrtaskinfo
```

Related Commands

Command	Description
dsptaskinfo	Displays information about currently operating tasks.

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cnfaal2subcellmuxing

To enable or disable AAL2 subcell multiplexing, use the **cnfaal2subcellmuxing** command in the AAL2 trunking operating mode.

cnfaal2subcellmuxing *mux-enable*

Syntax Description

mux-enable	Enables or disables AAL2 subcell multiplexing. It can be one of the following values: • 1 = On • 2 = Off

Command Modes

AAL2 trunking

Usage Guidelines

When you enable multiplexing, multiple CPS packets are multiplexed onto a single AAL2 connection without partial fill (unless there is a timeout). When you disable multiplexing, each CPS packet fills one or two cells (with padding).

Note The field length for each CPS packet can be up to 64 bytes.

When the multiplexing type is changed if CIDs are present, the card is reset and existing CIDs/connections are restored with the multiplexing type.

Examples

The following example shows that subcell multiplexing is disabled:

```
cnfaal2subcellmuxing 2
```

Related Commands

There are no related commands.

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cnfaal2timerparams

To configure the holdover time for VAD in milliseconds before activating silence suppression on an AAL2 PVC, use the **cnfaal2timerparams** command in the switched AAL2 PVC operating mode.

cnfaal2timerparams *vad-init-timer cid-fill-time*

Syntax Description

vad-init-timer	The VAD holdover timer (defined in milliseconds) in the range from 250 to 65535.
cid-fill-timer	Maximum wait time for cell content filling when the next packet is not ready (defined in milliseconds), in the range from 5 to 100.

Command Modes

Switched AAL2 PVC

Usage Guidelines

If AAL2 subcell multiplexing is disabled with the **cnfaal2subcellmuxing** command, executing this command produces no affect.

Examples

The following example shows that the VAD holdover timer is set for 500 ms, and will wait up to 50 ms for a cell to fill when the next packet is not ready:

```
cnfaal2timerparams 500 50
```

Related Commands

There are no related commands.

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cnfaal2transparams

To configure the transportation of DTMF and CAS bits to another endpoint and enable or disable type 3 packet triple redundancy feature, use the **cnfaal2transparams** command in the switched AAL2 PVC operating mode.

cnfaal2transparams *dtmf-trans cas-bits-trans type-3-red*

Syntax Description

dtmf-trans	Enables or disables DTMF tone transport as AAL2 type 3 packets. It can be one of the following values: 1 = On. DTMF relay using RFC 2833. 2 = Off. DTMF pass through. **Note** The *dtmf-trans* argument value must be set to 1 (on) if you are using codecs other than G.711 and G.726.
cas-bits-trans	Enables or disables CAS bits transportation. It can be one of the following values: • 1 = On • 2 = Off
type-3-red	Enables or disables triple redundancy protection for type 3 packets. It can be one of the following values: • 1 = On • 2 = Off

Command Modes

Switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures when using this command.

Examples

The following example shows that DTMF tone transportation, CAS bits transportation, and triple redundancy protection are enabled:

```
cnfaal2transparams 1 1 1
```

Related Commands

There are no related commands.

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cnfadapgain

To enable or disable the DSP adaptive gain feature, use the **cnfadapgain** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfadapgain *adap-gain-enable*

Syntax Description

adap-gain-enable	Enables or disables adaptive gain. It can be one of the following values: • 1 = On • 2 = Off

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures when using this command.

Examples

The following example shows that the adaptive gain feature is enabled:

```
cnfadapgain 1
```

Related Commands

There are no related commands.

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cnfalm

To configure the alarm parameters for a specified line, use the **cnfalm** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfalm -ds1 *line-num* **-red** *red-sev* **-rai** *rai-sev* **-neu** *ne-alarm-up* **-ned** *ne-alarm-down* **-net** *ne-alarm-thresh* **-feu** *fe-alarm-up* **-fed** *fe-alarm-down* **-fet** *fe-alarm-thresh*

Syntax Description

-ds1	The mandatory *line-num* argument identifier.
line-num	Line number on which to configure alarm parameters. In the range from 1 to 8.
-red	The mandatory *red-sev* argument identifier.
red-sev	Red alarm severity level. It can be one of the following values: • 1 = Minor • 2 = Major
-rai	The mandatory *rai-sev* argument identifier.
rai-sev	RAI alarm severity level. It can be one of the following values: • 1 = Minor • 2 = Major
-neu	The mandatory *ne-alarm-up* argument identifier.
ne-alarm-up	Near end alarm up count (defined in milliseconds), in the range from 1 to 65535.
-ned	The mandatory *ne-alarm-down* argument identifier.
ne-alarm-down	Near end alarm down count (defined in milliseconds), in the range from 1 to 65535.
-net	The mandatory *ne-alarm-thresh* argument identifier.
ne-alarm-thresh	Near end alarm threshold (defined in milliseconds), in the range from 1 to 65535.
-feu	The mandatory *fe-alarm-up* argument identifier.
fe-alarm-up	Far end alarm up count (defined in milliseconds), in the range from 1 to 65535.
-fed	The mandatory *fe-alarm-down* argument identifier.
fe-alarm-down	Far end alarm down count (defined in milliseconds), in the range from 1 to 65535.
-fet	The mandatory *fe-alarm-thresh* argument identifier.
fe-alarm-thresh	Far end alarm threshold (defined in milliseconds), in the range from 1 to 65535.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures when using this command.

Examples

The following example shows that line 2 is configured with a red severity alarm of major, and an RAI severity of minor:

```
cnfalm -ds1 2 -red 1 -rai 1
```


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Related Commands

Command	Description
clralm	Clears alarms from a specific line of a VISM card
clralms	Clears all alarms from a VISM card.
dspalm	Displays the alarms associated with a specified line of a VISM card.

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cnfalmcnt

To configure the collection of Time Division Multiplex (TDM) line statistics, use the **cnfalmcnt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfalmcnt -ds1 *line-num* **-sev** *alarm-severity* **-lcv15** *lcv-15min* **-lcv24** *lcv-24hr* **-les15** *les-15min* **-les24** *les-24hr* **-lses15** *lses-15min* **-lses24** *lses-24hr* **-crc15** *crc-15min* **-crc24** *crc-24hr* **-crces15** *crces-15min* **-crces24** *crces-24hr* **-crcses15** *crcses-15min* **-crcses24** *crcses-24hr* **-sefs15** *sefs-15min* **-sefs24** *sefs-24hr* **-aiss15** *aiss-15min* **-aiss24** *aiss-24hr* **-uas15** *uas-15min* **-uas24** *uas-24hr*

Syntax Description

-ds1	The mandatory *line-num* argument identifier.
line-num	Line number of the T1 or E1 line for which you want to display alarms. It can be in the range from 1 to 8.
-sev	The *alarm-severity* argument identifier.
alarm-severity	Alarm severity. It can be one of the following values: • 1 = Minor • 2 = Major
-lcv15	The *lcv-15min* argument identifier.
lcv-15min	The number of line code violations encountered by the line interface in the current 15-minute interval. It can be in the range from 0 to 2147483647.
-lcv24	The *lcv-24hr* argument identifier.
lcv-24hr	The number of line code violations in the last 24-hour period encountered by the interface. It can be in the range from 0 to 2147483647.
-les15	The *les-15min* argument identifier.
les-15min	The line code violation errored seconds in the last 15 minutes encountered by the interface. It can be in the range from 0 to 2147483647.
-les24	The *les-24min* argument identifier.
les-24hr	The line code violation errored seconds in the last 24 hours encountered by the interface. It can be in the range from 0 to 2147483647.
-lses15	The *lses-15min* argument identifier.
lses-15min	The line code violation severely errored seconds in the last 15 minutes encountered by the interface. It can be in the range from 0 to 2147483647.
-lses24	The *lses-24hr* argument identifier.
lses-24hr	The line code violation severely errored seconds in the last 24 hours encountered by the interface. It can be in the range from 0 to 2147483647.
-crc15	The *crc-15min* argument identifier.
crc-15min	The number of CRC code violations in the last 15 minutes encountered by the interface. It can be in the range from 0 to 2147483647.
-crc24	The *crc-24hr* argument identifier.
crc-24hr	The number of CRC code violations in the last 24 hours encountered by the interface. It can be in the range from 0 to 2147483647.
-crces15	The *crces-15min* argument identifier.

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crces-15min	The number of CRC code violated errored seconds in the last 15 minutes encountered by the interface. It can be in the range from 0 to 2147483647.
-crses24	The *crcses-24hr* argument identifier.
crses-24hr	The number of CRC code violated errored seconds in the last 24 hours encountered by the interface. It can be in the range from 0 to 2147483647. It can be in the range from 0 to 2147483647.
-crcses15	The *crcses-15min* argument identifier.
crcses-15min	The number of CRC code violated severely errored seconds in the last 15 minutes encountered by the interface. It can be in the range from 0 to 2147483647.
-sefs15	The *sefs-15min* argument identifier.
sefs-15min	The number of severely errored framing seconds encountered in the last 15 minutes by the interface. It can be in the range from 0 to 2147483647.
-sefs24	The *sefs-24hr* argument identifier.
sefs-24hr	The number of severely errored framing seconds encountered in the last 24 hours by the interface. It can be in the range from 0 to 2147483647.
-aiss15	The *aiss-15min* argument identifier.
aiss-15min	The number of AIS severely errored seconds in the last 15 minutes encountered by the interface. It can be in the range from 0 to 2147483647.
-aiss24	The *aiss-24hr* argument identifier.
aiss-24hr	The number of AIS severely errored seconds in the last 24 hours encountered by the interface. It can be in the range from 0 to 2147483647.
-uas15	The *uas-15min* argument identifier.
uas-15min	The number of unavailable seconds in the last 15 minutes encountered by the interface. It can be in the range from 0 to 2147483647.
-uas24	The *uas-24hr* argument identifier.
uas-24hr	The number of unavailable seconds in the last 24 hours encountered by the interface. It can be in the range from 0 to 2147483647.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Values higher than 2,147,483,647 for the argument values are truncated.

The following line statistics are collected:

- Line code violations encountered by the line interface in the current 15-minute interval.
- Line code violations in the last 15-minute period encountered by the interface.
- Line code violations in the last 24-hour period encountered by the interface.
- Line code violations Errored Seconds encountered by the interface.
- Line code violations Errored Seconds in the last 15 minutes encountered by the interface.
- Line code violations Errored Seconds in the last 24 hours encountered by the interface.
- Line code violations Severely Errored Seconds encountered by the interface.
- Line code violations Severely Errored Seconds in the last 15 minutes encountered by the interface.
- Line code violations Severely Errored Seconds in the last 24 hours encountered by the interface.

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- CRC code violations encountered by the interface.
- CRC code violations in the last 15 minutes encountered by the interface.
- CRC code violations in the last 24 hours encountered by the interface.
- CRC code violated Errored Seconds encountered by the interface.
- CRC code violated Errored Seconds in the last 15 minutes encountered by the interface.
- CRC code violated Errored Seconds in the last 24 hours encountered by the interface.
- P Bit code violations Severely Errored Seconds encountered by the interface.
- CRC code violated Severely Errored Seconds in the last 15 minutes encountered by the interface.
- CRC code violated Severely Errored Seconds in the last 24 hours encountered by the interface.
- Severely Errored Framing Seconds encountered by the interface.
- Severely Errored Framing Seconds in the last 15 minutes encountered by the interface.
- Severely Errored Framing Seconds in the last 24 hours encountered by the interface.
- AIS Severely Errored Seconds encountered by the interface.
- AIS Severely Errored Seconds in the last 15 minutes encountered by the interface.
- AIS Severely Errored Seconds in the last 24 hours encountered by the interface.
- Unavailable Seconds encountered by the interface.
- Unavailable Seconds in the last 15 minutes encountered by the interface.
- Unavailable Seconds in the last 24 hours encountered by the interface.
- Percentage of LCV Error Free Seconds.
- Loss of Signal detected with or without integrating to LOS alarm.
- Out of Frame detected with or without integrating to OOF alarm.
- Yellow Alarms detected with or without integrating to RAI alarm.
- Framing Pattern Errors encountered by a DS1 interface.

Examples

The following example shows that the TDM line statistics for major alarms are collected for line number 7:

```
cnfalmcnt -ds1 7 -sev 2
```

Related Commands

Command	Description
dspalmcnf	Displays the threshold data about the alarm statistics being collected.
dspalmcnt	Displays the alarm counters and statistics on a line.

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cnfannagetime

To configure the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache, use the **cnfannagetime** command in the VoIP switching operating mode.

cnfannagetime *nonpann-age-time*

Syntax Description

nonpann-age-time	Nonpermanent announcement age time (defined in minutes). It can be in the range from 0 to 65535. **Note** 0 = Infinite amount of time; the nonpermanent announcement remains valid until you replace it, if necessary.

Command Modes

VoIP switching

Usage Guidelines

When a nonpermanent announcement enters the announcement cache, it remains valid, as is, until the time you select for the *nonpann-age-time* argument value expires. When the time expires, the nonpermanent announcement is refreshed from the announcement file server. Requests to play a nonpermanent announcement do not affect its age time or cause the file to be refreshed.

Examples

The following example shows that nonpermanent announcements are configured to expire two hours after being placed into the VISM announcement cache:

```
cnfannagetime 120
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.

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Command	Description
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.

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cnfanndn

To designate the announcement file server domain name, use the **cnfanndn** command in the VoIP switching operating mode.

cnfanndn *ann-domain-name*

Syntax Description

ann-domain-name	The announcement file server domain name. In the range from 1 to 64 alphanumeric characters. You may also use forward slashes (/), backward slashes (\), periods, hyphens, and underscores when creating an announcement file server domain name. **Note** Do not use forward slashes (/) or hyphens as the last character in an announcement file server name. Do not use spaces in an announcement file server domain name.

Command Modes

VoIP switching

Usage Guidelines

You must add the announcement file server name as a regular node name using the VISM XDNS commands before you use this command.

Examples

The following example shows that the announcement file server is configured with the name announceserver3:

```
cnfanndn announceserver3
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.

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Command	Description
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.
dspannreqtimeout	Displays the expiration time for announcements to begin playing before being aborted.

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cnfannpathprefix

To designate the main prefix directory Trivial File Transfer Protocol (TFTP) path from which to retrieve announcement files from the announcement file server, use the **cnfannpathprefix** command in the VoIP switching operating mode.

cnfannpathprefix *ann-prefix-path*

Syntax Description

ann-prefix-path	The main directory TFTP path. In the range from the null string to 64 alphanumeric characters.

Command Modes

VoIP switching

Usage Guidelines

The prefix directory path is prefixed to the codec directory and the filename. The path prefix will be relative to the default TFTP directory on the announcement file server. Examples of valid prefix directory paths are:

- <null string>
- vism_ann
- cisco/vism_ann
- /cisco/vism_ann

Note The /cisco/vism_ann path starts at the root directory on the announcement file server because it begins with a backslash (/).

If you do not use this command, the default TFTP directory on the announcement file server is used as the prefix directory path.

You can use any directory or path on the announcement file server as the main directory for storing announcement files. Take into consideration the following guidelines when you use this command:

- If you do not configure an announcement path prefix on the VISM, the main announcement file directory is the default TFTP directory on the server.
- If you configure a path prefix, it is used as the main announcement directory.
- If the path prefix is not absolute (does not begin with /), then the prefix is relative to the default TFTP directory.

You must configure codec subdirectories under the main announcement directory on the announcement file server. One or more of the following codec subdirectories, for each encoding, are used for announcement files:

- g711u/
- g711a/
- g726_32k/
- g726_24k/
- g726_16k/

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- g729_a/
- g7231_high_rate/
- g7231_a_high_rate/
- g7231_low_rate/
- g7231_a_low_rate/

Note VISM supports G.729ab for connections and endpoints. If an announcement is to be played on a connection or endpoint provisioned for G.729ab, it must be recorded in G.729a.

For example, if the announcement server all-lines-busy.au file is encoded in both g711a and g729a, the following pathnames and files exist on the file server (assuming the default TFTP directory is tftpboot):

- /tftpboot/g711_a/all-lines-busy.au
- /tftpboot/g729_a/all-lines-busy.au

When the call agent requests that the announcement server all-lines-busy.au file be played toward one end of an established call, the VISM determines the codec being used for that call and plays the corresponding announcement file.

When the call agent requests that an announcement be played toward the TDM network on an unconnected endpoint, the codec used is specified by the VISM announcement preferred codec, configured with the **cnfannprefcodec** command.

You can configure another level of directories to group announcement files by language. Specify these directories by the call agent (or when provisioning the VISM) as part of the announcement file name. For example, the call agent might specify the english/ann1.au announcement file name. If the file is encoded in G.729a and the prefix is /tftpboot, the file is located at /tftpboot/g729_a/english/ann1.au.

Examples

The following example shows that the /cisco/vism_ann path is designated as the prefix directory path from which to retrieve announcement files from the announcement file server:

```
cnfannpathprefix /cisco/vism_ann
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.

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Command	Description
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.

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cnfannprefcodec

To configure the codec type used for announcements played on unconnected Time Division Multiplex (TDM) endpoints, use the **cnfannprefcodec** command in the VoIP switching operating mode.

cnfannprefcodec *ann-codec-type*

Syntax Description

ann-codec-type	It can be one of the following values: • 1 = G.711u • 2 = G.711a • 3 = G.726-32k • 4 = G.729a • 5 = G.729ab • 7 = G.726-16k • 8 = G.726-24k • 9 = G.726-40k • 11 = G.723.1-H • 12 = G.723.1a-H • 13 = G.723.1-L • 14 = G.723.1a-L

Command Modes

VoIP switching

Usage Guidelines

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

Examples

The following example shows that the G.723.1-H codec type is configured for announcements played on unconnected TDM endpoints:

```
cnfannprefcodec 11
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.

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Command	Description
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.

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cnfannreqtimeout

To configure the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent, use the **cnfannreqtimeout** command in the VoIP switching operating mode. Requests are aborted when the expiration time is reached and the announcement has not started.

cnfannreqtimeout *ann-req-time*

Syntax Description

ann-req-time	The expiration time for a dynamic play announcement request (defined in seconds). It can be in the range from 0 to 15. (Default = 5) **Note** If *ann-req-time* = 0, the expiration time is not set, no expiration occurs, and requests are not aborted.

Command Modes

VoIP switching

Usage Guidelines

If the call agent signals the announcement to be played toward the packet network on a connection that is not in a send mode, the request is deferred until the call agent modifies the connection. Once the connection is placed in send mode, the expiration timer is started.

Examples

The following example shows that announcements must begin playing within 12 seconds after the VISM receives the announcement signal from the call agent, after which time, requests are aborted:

```
cnfannreqtimeout 12
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.

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Command	Description
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.
dspannreqtimeout	Displays the expiration time for announcements to begin playing before being aborted.

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cnfcac

To enable or disable the connection admission control (CAC) feature on a VISM card, use the **cnfcac** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfcac *cac-enable*

Syntax Description

cac-enable	Enables or disables CAC. It can be one of the following values: • 1 = On • 2 = Off

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

If you enable CAC with this command, you can then use the **cnfconcac** command to enable CAC on PVCs.

Examples

The following example shows that CAC is disabled for the current card:

```
cnfcac 1
```

Related Commands

Command	Description
cnfconcac	Enables CAC on an already added connection.

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cnfcacparams

To configure connection admission control (CAC) features on a card, use the **cnfcacparams** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfcacparams *vad-duty-cycle vad-tol*

Syntax Description

vad-duty-cycle	VAD duty cycle—the ratio of speech and holdover duration to total duration expressed as a percentage. Holdover is the period after silence begins and silence suppression is turned on. In VISM, the holdover time is 250 ms. A typical value for this parameter is 61, which means that 61% of the time is taken by speech and holdover. It can be in the range from 1 to 99. (Default = 61)
vad-tol	VAD tolerance—the expression for VAD "over-subscription drop ratio" where: tolerance = 10000 x over-subscription drop ratio (expressed as a percentage). A typical value for VAD tolerance is 10. Some examples are: • 10000 (tolerance) = 1% (over subscription drop ratio) • 100 = 0.01% • 10 = 0.001% • 1 = 0.0001% It can be in the range from 0 to 10000. (Default = 100)

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures when using this command.

Examples

The following example shows that VAD is configured for a duty cycle of 50 and a tolerance of 500:

```
cnfcacparams 50 500
```

Related Commands

Command	Description
cnfcac	Enables or disables the CAC feature on a VISM card

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cnfcalea

To enable or disable the Communications Assistance for Law Enforcement Act (CALEA) feature on the current VISM card, use the **cnfcalea** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfcalea *calea-enable*

Syntax Description

calea-enable	Enables or disables the CALEA feature. It can be one of the following values: • 1 = On • 2 = Off (Default)

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

You must ensure that you are using the VISM software version that supports CALEA in order to use the CALEA feature. The CALEA implementation supports the CALEA law intercept confirmation interface.

Examples

The following example shows that the CALEA feature is enabled on the current VISM card:

```
cnfcalea 1
```

Related Commands

Command	Description
addcon	Adds a PVC connection between a VISM card and any SM or PXM card.
cnfcon	Configures a connection between a VISM card and an MGX 8000 Series platform PXM card.
dspcalea	Displays the CALEA feature configuration status of the current VISM card.
dspvismparam	Displays the current VISM card configuration.

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cnfcascode

To configure channel associated signaling (CAS) idle code and seized code parameters for an endpoint, use the **cnfcascode** command in the AAL2 trunking operating mode.

cnfcascode *endpt-num idle-code seized-code* |*endpts-num*|

Syntax Description

endpt-num	The endpoint number which is to be configured with CAS idle code and seized code values. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144 **Note** If the second (optional) *endpt-num* argument is specified, this argument value is the first endpoint in a consecutive number of endpoints.
idle-code	The 4-bit idle code. The value can be in the range from 0 to 15 and represents the four signaling bits—A, B, C, and D—in binary, as bits 3, 2, 1, and 0 respectively, with bit 3 the most significant.

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seized-code	The 4-bit seized code. The value can be in the range from 0 to 15 and represents the four signaling bits—A, B, C, and D—in binary, as bits 3, 2, 1, and 0 respectively, with bit 3 the most significant.
endpts-num	(Optional) An optional argument value which indicates the last endpoint in a consecutive range of endpoints. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

AAL2 trunking

Usage Guidelines

You must add the line associated with the *endpt-num* argument value before you use this command.

Examples

The following example shows that the idle code is binary 0100 (argument value = 4, so that A = 0, B = 1, C = 0, D = 0), the seized code is binary 1001 (argument value = 9, so that A = 1, B = 0, C = 0, D = 1), for endpoints 1 to 4:

```
cnfcascode 1 4 9 4
```

Related Commands

There are no related commands.

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cnfcasdialdelay

To configure the VISM wait time (dial delay) for outpulsing digits to the PBX after sending an off-hook event, use the **cnfcasdialdelay** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfcasdialdelay *endpt-num dial-delay*

Syntax Description

endpt-num	The endpoint number to which the outpulsing digits wait time is configured. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
dial-delay	The wait time (defined in milliseconds) for outpulsing digits to the PBX after sending an off-hook event. It can be in the range from 10 to 1000. (Default = 500)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

You can execute this command if the following conditions are met:

- The endpoint represented by the *endpt-num* argument value has been previously added.
- The associated DS0 is configured for CAS.
- The protocol is immediate start.
- The MIB was chosen as the source in the **cnfcasparamsource** command.

Examples

The following example shows that endpoint 100 is configured with a dial delay (wait time) of 50 ms:

```
cnfcasdialdelay 100 50
```


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Related Commands

Command	Description
dspcastimers	Displays an endpoint's currently configured CAS timers.

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cnfcasendpt

To associate an endpoint with a channel associated signaling (CAS) variant name, use the **cnfcasendpt** command in the VoIP switching/trunking operating mode.

cnfcasendpt *endpt-num var-name*

Syntax Description

endpt-num	The endpoint number which is to be associated with the CAS variant identified by the *var-name* argument value. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
var-name	Name of the CAS variant; a text string from 1 to 64 alphanumeric characters.

Command Modes

VoIP switching/trunking

Usage Guidelines

The endpoint and CAS variant must be previously added before you execute this command.

If there is no connection on an endpoint when the endpoint is associated with a CAS variant, use the **cnfcasendpt** command again to change the CAS variant. However, if there is a connection on an endpoint, you must delete the endpoint, add it back, and then execute the **cnfcasendpt** command to change the CAS variant.

Examples

The following example shows that endpoint number 3 is associated with the q50.o CAS variant:

```
cnfcasendpt 3 q50.o
```

Related Commands

There are no related commands.

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cnfcasflashtime

To configure the minimum and maximum channel associated signaling (CAS) on-hook time periods for incoming flash hooks on a specified endpoint, use the **cnfcasflashtime** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfcasflashtime *endpt-num min-flash-time max-flash-time*

Syntax Description

endpt-num	The endpoint number which is to be configured with a minimum and maximum flash time. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
min-flash-time	The minimum flash time (defined in milliseconds); in the range from 50 to 1550. (Default = 300)
max-flash-time	The maximum flash time (defined in milliseconds); in the range from 50 to 1550. (Default = 1400)

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Use this command to allow VISM to distinguish flash hooks from disconnects by configuring the on-hook flash duration. An on-hook event with a duration that falls in the configured range is interpreted as a flash hook. An on-hook event with a duration shorter than the configured range is ignored. An on-hook event longer than the configured range is interpreted as a disconnect.

Examples

The following example shows that endpoint number 90 is configured with a 400-ms minimum CAS on-hook flash time and a 1000-ms maximum CAS on-hook flash time:

```
cnfcasflashtime 90 400 1000
```


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Related Commands

Command	Description
addxgcppersistevt	Adds persistent xGCP events.
cnfcasglareattrib	Configures the direction of CAS calls and the glare policy for a specified endpoint.
cnfcaspackage	Configures MGCP packages to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
dspcasglareattrib	Displays the direction of CAS calls and the glare policy for a specified endpoint.
dspcaspackage	Displays the MGCP packages configured to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
dspcastimers	Displays the currently configured CAS timers for a specified endpoint.

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cnfcasglareattrib

To configure the direction of channel associated signaling (CAS) calls and the glare (dual seizure event) policy for a specified endpoint, use the **cnfcasglareattrib** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfcasglareattrib *endpt-num cas-direction glare-pol*

Syntax Description

endpt-num	Endpoint number which is to be configured with CAS call direction and a glare policy. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
cas-direction	CAS bits flow direction. It can be one of the following values: • 1 = Incoming and outgoing • 2 = Incoming • 3 = Outgoing
glare-pol	Glare condition policy. It can be one of the following values: • 1 = Controlling • 2 = Releasing **Note** You can assign a *glare-pol* argument value of 2 only if the *cas-direction* argument is assigned a value of 1.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Use this command to assist in controlling TDM glare events. Use the *cas-direction* argument to allow or disallow glare events. Use the *glare-pol* argument value to configure the resolution of glare events if you allow them to occur. Resolution of glare events is either to enable VISM to release a call and accept a call from the PBX, or wait for the PBX to release a call and enable VISM to continue with a call.

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Examples

The following example shows that endpoint number 136 is configured with the incoming CAS bits flow direction and the controlling glare condition policy:

```
cnfcasglareattrib 136 2 1
```

Related Commands

Command	Description
addxgcppersistevt	Adds persistent xGCP events.
cnfcasflashtime	Configures the minimum and maximum CAS on-hook time periods for incoming flash hooks on a specified endpoint.
cnfcaspackage	Configures MGCP packages to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
cnflndigitorder	Assigns the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.
delxgcppersistevt	Deletes a persistent xGCP event.
dspcasglareattrib	Displays the direction of CAS calls and the glare policy for a specified endpoint.
dspcaspackage	Displays the MGCP packages configured to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
dspcastimers	Displays the currently configured CAS timers for a specified endpoint.
dsplndigitorder	Displays the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.

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cnfcasglaretime

To configure the channel associated signaling (CAS) glare time for an endpoint, use the **cnfcasglaretime** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfcasglaretime *endpt-num glaretime*

Syntax Description

endpt-num	The endpoint number which is to be configured with a glare time, identified by the *glaretime* argument value. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
glaretime	The glare time (defined in milliseconds); in the range from 10 to 1000. (Default = 500)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

A glare condition occurs when two stations attempt to call each other simultaneously. Glare condition resolution involves a terminating VISM, which, upon receiving an off-hook event from the call agent, starts a timer and verifies that the terminating PBX is also attempting an off-hook event. If so, off-hook events from the call agent are ignored for the duration of the timer—the value you indicated with the *glaretime* argument value.

To use this command, you must ensure that the endpoint indicated by the *endpt-num* argument value has been previously added, and that the associated DS0 is configured for CAS.

Note To use this command, you must choose the MIB as the source in the **cnfcasparamsource** command.

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Examples

The following example shows that endpoint 100 is configured with a CAS glare time value of 50 ms:

```
cnfcasglaretime 100 50
```

Related Commands

Command	Description
dspcastimers	Displays an endpoint's currently configured CAS timers.

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cnfcasguardtime

To configure the channel associated signaling (CAS) guard time for an endpoint, use the **cnfcasguardtime** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfcasguardtime *endpt-num guardtime*

Syntax Description

endpt-num	The endpoint number which is to be configured with a guard time, identified by the *guardtime* argument value. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
guardtime	The guard time (defined in milliseconds); in the range from 10 to 1000. (Default = 800)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Guard time is the minimum duration between the end of one call and the beginning of the next call. When a delete connection (DLCX) command is received from a call agent, VISM starts a timer—set by the value you indicate for the *guardtime* argument—and ignores any off-hook events until the timer has expired.

To use this command, you must ensure that the endpoint indicated by the *endpt-num* argument value has been previously added, and that the associated DS0 is configured for CAS.

Note To use this command, you must choose the MIB as the source in the **cnfcasparamsource** command.

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Examples

The following example shows that endpoint number 100 is configured with a CAS guard time of 500 ms:

```
cnfcasguardtime 100 500
```

Related Commands

Command	Description
dspcastimers	Displays an endpoint's currently configured CAS timers.

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cnfcasoffhooktime

To configure a minimum presence time, on an endpoint, for a CAS off-hook pattern to be recognized as an off-hook signal, use the **cnfcasoffhooktime** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfcasoffhooktime *endpt-num offhooktime*

Syntax Description

endpt-num	The endpoint number which is to be configured with a guard time, identified by the *offhooktime* argument value. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
offhooktime	The off-hook time (defined in milliseconds); in the range from 10 to 1000.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

To use this command, you must ensure that the endpoint indicated by the *endpt-num* argument value has been previously added, and that the associated DS0 is configured for CAS.

Note To use this command, you must choose the MIB as the source in the **cnfcasparamsource** command.

Examples

The following example shows that endpoint 100 is configured with a CAS offhook time of 500 ms:

```
cnfcasoffhooktime 100 500
```

Related Commands

Command	Description
dspcastimers	Displays an endpoint's currently configured CAS timers.

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cnfcasonhooktime

To configure a minimum presence time, on an endpoint, for a CAS on-hook pattern to be recognized as an on-hook signal, use the **cnfcasonhooktime** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfcasonhooktime *endpt-num onhooktime*

Syntax Description

endpt-num	The endpoint number which is to be configured with a guard time, identified by the *onhooktime* argument value. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
onhooktime	The on-hook time (defined in milliseconds); in the range from 10 to 1000. (Default = 300)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

To use this command, you must ensure that the endpoint indicated by the *endpt-num* argument value has been previously added, and that the associated DS0 is configured for CAS.

Note To use this command, you must choose the MIB as the source in the **cnfcasparamsource** command.

Examples

The following example shows that endpoint 100 is configured with an on-hook time of 500 ms:

```
cnfcasonhooktime 100 500
```


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Related Commands

Command	Description
dspcastimers	Displays an endpoint's currently configured CAS timers.

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cnfcaspackage

To configure the Media Gateway Control Protocol (MGCP) packages to notify persistent observed channel associated signaling (CAS) events in the context of incoming and outgoing CAS calls on a specified endpoint, use the **cnfcaspackage** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfcaspackage *endpt-num in-package out-package*

Syntax Description

endpt-num	The endpoint number which is to be configured with the source location. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

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in-package	Package name to be used for persistent events observed on an incoming telephony call. It can be one of the following values: • MS = PBX DID/DOD trunks and incoming or outgoing MF wink start trunks • DT = DTMF and dial pulse[1] trunks (except basic PBX) • MD = North American MF Feature Group D EANA and EAIN • MO = FGD Operator Services Signaling outgoing trunks only • BL = DTMF and dial pulse[1] basic PBX trunks • L = Line • H = Handset • Basic = It can be one of the following: – G—generic – D—DTMF – M—MF – T—Trunk – L—Line – H—Handset – R—RTP – A—Announcement Server – Script—Script **Note** If you set the package to anything other than basic on an endpoint with this command, persistent events observed on that endpoint are encoded as an event in that package if the event is defined in that package, or dropped if they are not defined in that package. Packages N and S are not supported.

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out-package	Package name to be used for persistent events observed on an outgoing telephony call. It can be one of the following values: • MS = PBX DID/DOD trunks and incoming or outgoing MF wink start trunks • DT = DTMF and dial pulse[1] trunks (except basic PBX) • MD = North American MF Feature Group D EANA and EAIN • MO = FGD Operator Services Signaling outgoing trunks only • BL = DTMF and dial pulse[1] basic PBX trunks • L = Line • H = Handset • Basic = It can be from the following: – G—generic – D—DTMF – M—MF – T—Trunk – L—Line – H—Handset – R—RTP – A—Announcement Server • Script—Script **Note** If you set the package to anything other than basic on an endpoint with this command, persistent events observed on that endpoint are encoded as an event in that package if the event is defined in that package, or dropped if they are not defined in that package. Packages N and S are not supported.

1. Dial pulse is not supported in VISM.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

This command enables RFC 3064 support.

Examples

The following example shows that the MGCP packages for endpoint number 83 are configured with mgcplin as the MGCP incoming package name and mgcplout as the MGCP outgoing package name:

```
cnfcaspackage 83 mgcp1in mgcp1out
```

Related Commands

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Command	Description
addxgcppersistevt	Adds persistent xGCP events.
cnfcasflashtime	Configures the minimum and maximum CAS on-hook time periods for incoming flash hooks on a specified endpoint.
cnfcasglareattrib	Configures the direction of CAS calls and the glare policy for a specified endpoint.
cnflndigitorder	Assigns the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.
delxgcppersistevt	Deletes a persistent xGCP event.
dspcasglareattrib	Displays the direction of CAS calls and the glare policy for a specified endpoint.
dspcaspackage	Displays the MGCP packages configured to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
dspcastimers	Displays the currently configured CAS timers for a specified endpoint.
dsplndigitorder	Displays the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.

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cnfcasparamsource

To configure channel associated signaling (CAS)-related timer source parameters for an endpoint, use the **cnfcasparamsource** command in the switched AAL2 PVC operating mode.

cnfcasparamsource *endpt-num cas-source*

Syntax Description

endpt-num	The endpoint number which is to be configured with the source location, identified by the *cas-source* argument value. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
cas-source	The CAS-related timer parameters source location. It can be one of the following values: • 1 = CAS application file (Default) • 2 = Current VISM MIB

Command Modes

Switched AAL2 PVC

Usage Guidelines

You can configure different CAS-related timer values for different endpoints; however, the endpoints must all be associated with the same CAS variant.

To use this command, you must ensure that the endpoint indicated by the *endpt-num* argument value has been previously added, and that the associated DS0 is configured for CAS.

Examples

The following example shows that endpoint number 100 is configured with CAS-related timer values located in the current VISM card's MIB:

```
cnfcasparamsource 100 2
```


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Related Commands

Command	Description
dspcasparamsource	Displays an endpoint's currently configured CAS-related timer source.

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cnfcasvar

To configure a previously added channel associated signaling (CAS) variant timing parameters, use the **cnfcasvar** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfcasvar *var-name country-code partial-time critical-time interdigit-timeout*

Syntax Description

var-name	Name of a previously added CAS variant; a text string of 1 to 64 alphanumeric characters.
country-code	The country code of the variant. The value must be a two-character text string.
partial-time	The partial dial time (defined in seconds) in the range from 10 to 10000—in increments of 10.
critical-time	The critical timing (defined in seconds) in the range from 0 to 10000—in increments of 10.
interdigit-timeout	The interdigit timeout value for MF digits (defined in seconds) in the range from 1 to 10.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures when using this command.

Examples

The following example shows that the var1 CAS variant for the nz country code is configured with a partial timeout of 10 seconds, a critical timing of 10 seconds, and an MF interdigit timeout of 2 seconds:

```
cnfcasvar var1 nz 10 10 2
```

Related Commands

Command	Description
addcasvar	Adds a CAS variant to a VISM card.
delcasvar	Deletes a CAS variant from a VISM card.
dspcasvar	Displays information about CAS variants for a given variant name.

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cnfcaswinktime

To configure the channel associated signaling (CAS) wink time parameters—minimum and maximum make times, and minimum break time—for an endpoint, use the **cnfcaswinktime** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfcaswinktime *endpt-num min-make-time max-make-time min-break-time*

Syntax Description

endpt-num	The endpoint number which is to be configured with wink time parameters. Endpoint number. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
min-make-time	The minimum make duration time (defined in milliseconds) of the wink. It can be in the range from 10 to 1000. (Default = 100)
max-make-time	The maximum make duration time (defined in milliseconds) of the wink. It can be in the range from 10 to 3000. (Default = 1000)
min-break-time	The minimum break duration time (defined in milliseconds) of the wink. It can be in the range from 10 to 1000. (Default = 20)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

A wink is composed of the following sequential events:

1. On-hook pattern
2. Off-hook pattern
3. Return to an on-hook pattern

The minimum and maximum make times are the minimum and maximum durations that the off-hook pattern persists. The minimum break time is the minimum duration that the on-hook pattern persists following the return to on-hook.

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To use this command, you must ensure that the endpoint indicated by the *endpt-num* argument value has been previously added, and that the associated DS0 is configured for CAS.

Note To use this command, you must choose the MIB as the source in the **cnfcasparamsource** command.

Examples

The following example shows that endpoint 100 is configured with a wink time specification of 100 ms for the minimum make time, 500 ms for the maximum wake time, and 100 ms for the minimum break time:

```
cnfcaswinktime 100 500 100
```

Related Commands

Command	Description
dspcastimers	Displays an endpoint's currently configured CAS timers.

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cnfcasxgcp

To configure channel associated signaling (CAS) variant retransmission parameters, use the **cnfcasxgcp** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfcasxgcp *var-name retrans-time start-retrans-time retrans-num*

Syntax Description

var-name	Name of the CAS variant to be configured with retransmission parameters; a text string of 1 to 64 alphanumeric characters.
retrans-time	The retransmission time (defined in milliseconds). It can be in the range from 10 to 10000.
start-retrans-time	The initial retransmission time (defined in milliseconds). It can be in the range from 10 to 10000.
retrans-num	Maximum number of retransmission retries. It can be in the range from 0 to 10.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the var1 CAS variant is configured for 100 ms retransmission time, 100 ms initial retransmission time, and up to two retransmission attempts:

```
cnfcasxgcp var1 100 100 10 2
```

Related Commands

Command	Description
addcasvar	Adds a CAS variant to a VISM card.
delcasvar	Deletes a CAS variant from a VISM card.
dspcasvar	Displays information about CAS variants for a given variant name.

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cnfclksrc

To configure the PXM1, PXM1E, PXM45, VISM, or VISM-PR card clock source, use the **cnfclksrc** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfclksrc *slot-num.port-num clk-type*

Syntax Description

slot-num.port-num	The chassis PXM card slot number and port number for which you want to configure the clocking source. The *slot-num* can be one of the following values: • 7 • 8 The *port-num* can be in the range from 1 to n, as appropriate for the physical installation. **Note** Ensure that you type the period with no spaces on either side, between the *slot-num* argument value and the *port-num* argument value.
clk-type	Clock type. It can be one of the following values: • P = Primary • S = Secondary • N = Null. No external clocking source; use the PXM card's internal crystal.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Specify the **cnfclksrc** command argument values according to the following rules:

- To configure any line except for line 1 of a VISM card, you must use a VISM-PR card in combination with a PXM1E or PXM45 in your MGX 8000 Series switch chassis.
- If the clock source is the external BITS clock (a T1 or E1 port on the PXM back card), specify the configuration as:

```
cnfclksrc 7.35 p
```

Note Type **7** for the slot number regardless of the PXM card's location in the chassis. Type **35** for the port number—the BITS port is always port 35.

- If the clock source is an external signal on one of the PXM OC3 ports, specify the configuration as:

```
cnfclksrc 7.n p
```

Note Type **7** for the slot number regardless of the PXM card's location in the chassis. The n port parameter value is the OC3 port number in the range 1 to 4.

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- If the clock source is the PXM's internal crystal and no other clock source has been specified, do not configure the clock source. The crystal is the automatic default.
- If you want to change the clocking source from external to the PXM card's internal crystal, specify the configuration as:

```
cnfclksrc 7.X n
```

Note Type **7** for the slot number regardless of the PXM card's location in the chassis. The X argument value is the either 35 or the OC3 port number, depending upon which is the currently specified source. The null port number argument value cancels the previous configuration and returns the clocking source to the default internal crystal.

- If the clock source is from a line on a VISM card, specify the configuration as:

```
cnfclksrc Y.1 p
```

Note The Y argument value is the actual slot number of the VISM card. Always type **1** for port argument value, which represents the line number in this configuration.

Refer to the *Cisco MGX 8850 Installation and Configuration Guide* and the *Cisco MGX 8000 Series Switch Command Reference* for information on the following PXM card clocking commands:

- **cnfcbclk**
- **cnfextclk**
- **cnfsrmclksrc**
- **dspcbclk**
- **dspclkinfo**
- **dspclksrc**
- **dspcurclk**

Examples

The following example shows that the clock source is configured for slot number 8, port number 35, and is secondary:

```
cnfclksrc 8.35 s
```

Related Commands

Command	Description
cnfln	Configures line characteristics for a specified line.

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cnfco4timer

To configure the bearer continuity test CO4 timer value, use the **cnfco4timer** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfco4timer *co4-timeout*

Syntax Description

co4-timeout	It can be a value (defined in milliseconds) in the range from 50 to 10000. (Default = 1000)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

A timer is started when a CO3 or xRBK message is sent. If a CO4 message is not received before the timeout expires, a VISM initiated DLCX message is sent to the call agent.

Examples

The following example shows that the bearer continuity test CO4 timer expires at 10000 ms:

```
cnfco4timer 10000
```

Related Commands

Command	Description
dspco4timer	Displays the bearer continuity test CO4 timer value.
dspvismparam	Displays the current VISM card configuration.

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cnfcodecjtrdelay

To configure the jitter delay mode and initial delay value for a specified codec, use the **cnfcodecjtrdelay** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfcodecjtrdelay *codec-type jitter-mode jitter-delay*

Syntax Description

codec-type	Type of coding/decoding to be performed on the data stream. It can be one of the following values: • 1 = G.711u • 2 = G.711a • 3 = G.726-32k • 4 = G.729a • 5 = G.729ab • 6 = Clear channel (VAD must be off) • 7 = G.726-16k • 8 = G.726-24k • 9 = G.726-40k • 11 = G.723.1-H • 12 = G.723.1a-H • 13 = G.723.1-L • 14 = G.723.1a-L
jitter-mode	Jitter delay mode. It can be one of the following values: • 1 = Fixed. Cisco recommends fixed mode if latency jitter is constant. • 2 = Adaptive. Cisco recommends adaptive if latency jitter is variable.
jitter-delay	Initial jitter delay (defined in milliseconds). It can be a value from one of the following ranges: • For codec templates 1, 3, and 4, in the range from 0 to 100 in increments of 10. • For codec template 2, in the range from 0 to 100 in increments of 5.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Cisco recommends that you configure the *jitter-delay* argument to 20 ms when using DSP firmware versions 3.4 and 3.6.

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

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Examples

The following example shows that codec G.726, 24 kbps is configured with an adaptable jitter mode and an initial jitter delay of 55 ms:

```
cnfcodecjtrdelay 8 2 55
```

Related Commands

Command	Description
dspcodecjtrdelays	Displays the configured codec jitter delay modes and associated jitter initial delays.

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cnfcodecneg

To configure the priority order of the lists of codec list priority order, use the **cnfcodecneg** command in the VoIP switching/trunking operating mode.

cnfcodecneg *codec-priority*

Syntax Description

codec-priority	The codec list priority scheme. It can be one of the following values: • 1 = LCO list, remote SDP data list, local MIB • 2 = LCO list, local MIB, remote SDP data list • 3 = Remote SDP data list, LCO list, local MIB • 4 = Remote SDP data list, local MIB, LCO list • 5 = Local MIB, LCO list, remote SDP data list • 6 = Local MIB, remote SDP data list, LCO list

Command Modes

VoIP switching/trunking

Usage Guidelines

Codec lists include the following:

- Call agent provided list in a local connection option (LCO)
- Remote gateway provided list in the Session Description Protocol (SDP) data
- Local MIB provided list

Examples

The following example shows that the LCO list is the first priority, SDP data list is the second, and the list from the local MIB is the last priority:

```
cnfcodecneg 1
```

Related Commands

There are no related commands.

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cnfcodecparams

To configure codec parameters—codec packetization period, preference, Internet Assigned Numbers Authority (IANA) registered codec type and xGCP codec string—for AAL1 and IP calls, use the **cnfcodecparams** command in the VoIP switching operating mode.

cnfcodecparams *codec-type codec-pkt-period |preference codec-string iana-type|*

Syntax Description

codec-type	The type of coding/decoding to be performed on the data stream. It can be one of the following values: • 1 = G.711u • 2 = G.711a • 3 = G.726-32k • 4 = G.729a • 5 = G.729ab • 6 = Clear channel (VAD must be off) • 7 = G.726-16k • 8 = G.726-24k • 9 = G.726-40k • 11 = G.723.1-H • 12 = G.723.1a-H • 13 = G.723.1-L • 14 = G.723.1a-L
codec-pkt-period	Packetization period (defined in milliseconds). It can be one of the following values: • 10 (Default) • 20 • 30 • 40 • 60
preference	(Optional) Preference level of the codec you identified with the *codec-num* argument value. It can be a value from the following list: • 0 = Ignore preference **Note** A preference value of 0 results in the codec being excluded from the list of supported codecs during codec negotiation via xGCP. • In the range from 1 (highest) to 13 (lowest)
codec-string	(Optional) The xGCP codec string. It can be from 1 to 20 ASCII characters.
iana-type	(Optional) IANA registered codec type. It can be in the range from 0 to 96.

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Command Modes VoIP switching

Usage Guidelines The packetization period parameter is required but the remaining parameters are optional. The parameters of any codec can be configured regardless of whether the current codec template supports that codec.

If you are using template 2, the G.726 and G.729 codec types are ignored and replaced with clear channel.

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

Examples The following example shows that the codec with identification number 3 is configured with a packetization period of 20 ms, has the highest priority, is not an IANA registered codec, and is represented by the string geeseven:

```
cnfcodecparams 3 20 1 0 geeseven
```

Related Commands There are no related commands.

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cnfcodectmpl

To assign a codec template to an entire VISM card, use the **cnfcodectmpl** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfcodectmpl *template-num*

Syntax Description

template-num	Template number assigned to the current VISM card. It can be one of the following values: • 1 = G.711u, G.711a, G.726-16k, G.726-24k, G.726-32k, G.726-40k, G.729a, and G.729ab codecs, and clear channel **Note** Template 1 is limited to 145 DS0s for VISM and 248 DS0s for VISM-PR. • 2 = G.711u and G.711a uncompressed codecs, and clear channel • 3 = G.711u, G.711a, G.726-16k, G.726-24k, G.726-32k, G.726-40k, G.729a, and G.729ab codecs and clear channel **Note** Codec template number 3 = template number 1 with T.38 support added. Template 3 is limited to 120 DS0s for VISM and 248 for VISM-PR. • 4 = G.711u, G.711a, G. 726-16k, G.726-24k, G.726-32k, G.726-40k, G.729a, G.729ab, G.723.1-H, G.723.1a-H, G.723.1-L, G.723.1a-L codecs and clear channel **Note** Template 4 supports a maximum of 144 channels for VISM-PR.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

The following list describes the maximum number of channels supported by the different templates:

- Template 1: 145 T1 channels, or 145 E1 channels.
- Template 2: 192 T1 channels, or 248 E1 channels.
- Template 3: 120 T1 channels, or 120 E1 channels.

Templates define allowable voice encoding types.

The execution of this command requires your confirmation because the card resets after you execute this command.

This command is not allowed if CIDs are present.

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

Examples

The following example shows that template number 1 is assigned to the current VISM card:

```
cnfcodectmpl 1
```


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Related Commands

Command	Description
dspcodectmpls	Displays all entries in the VISM card's codec template table.

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cnfcompvad

To enable or disable voice activity detection (VAD) on a T1 or E1 line, use the **cnfcompvad** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfcompvad *line-num vad-enable*

Syntax Description

line-num	Line number of the line on which to configure VAD in the range from 1 to 8.
vad-enable	Enables or disables VAD. It can be one of the following values: 1 = On 2 = Off

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures when using this command.

Examples

The following example shows that line number 3 does not have VAD enabled:

```
cnfcompvad 3 2
```

Related Commands

There are no related commands.

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cnfcon

To configure a connection between a VISM card and an MGX 8000 Series platform PXM card, use the **cnfcon** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfcon *lcn peak-cell-rate service-type* |*sus-cell-rate max-burst-rate*|

Syntax Description

lcn	Logical channel number of the connection; in the range from 131 to 510.
peak-cell-rate	Peak cell rate (described in cells per second). It can be a value from one of the following ranges: • 1 to 80000 for VoIP bearer • 1 to 20000 for VoIP control • 1 to 50000 for AAL2 T1 • 1 to 60000 for AAL2 E1 • 1 to 400 for AAL2 signaling (trunking) • 1 to 90000 for AAL5 bearer • 1 to 10000 for AAL5 control **Note** The *peak-cell-rate* argument value must be 15 or greater if the *service-type* argument value is a variable bit rate selection.
service-type	Service type. It can be one of the following values: • 1 = Constant bit rate (CBR) • 2 = Variable bit rate real time—VBR (RT) • 3 = Variable bit rate non-real time—VBR (NRT) • 4 = VBR (RT) 3 • 5 = VBR (RT) 2 • 6 = VBR (NRT) 2 • 7 = VBR (NRT) 3 **Note** Use values 4 to 7 for VISM-PR to RPM-PR connections.
sus-cell-rate	(Optional) Sustainable cell rate. It can be in the range from 1 to the value you configured for the *peak-cell-rate* argument value. **Note** This argument value is required if the *service-type* argument value is in the range from 2 to 7.
max-burst-rate	(Optional) Maximum burst size—maximum number of cells transmitted at the peak cell rate. It can be in the range from 1 cell to 10 times the value you configured for the *sus-cell-rate* argument value. **Note** This argument value is required if the *service-type* argument value is in the range from 2 to 7.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

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Usage Guidelines

Follow standard CLI procedures when using this command.

Examples

The following example shows that an LCN 160 connection is configured as CBR, with a peak cell rate of 20000 cps, a sustained cell rate of 5000 cps, and a maximum burst rate of 10000 cps:

```
cnfcon 160 20000 1 5000 10000
```

Related Commands

Command	Description
addcon	Adds a PVC connection between a VISM card and any SM or PXM card.
delcon	Deletes a PVC connection between a VISM card and an MGX 8000 Series platform PXM card.
dspvismparam	Displays the current VISM card configuration.

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cnfconcac

To configure connection admission control (CAC) on a previously added connection, use the **cnfconcac** command in the AAL2 trunking operating mode.

cnfconcac *lcn conn-type*

Syntax Description

lcn	Logical channel number of the connection; in the range from 131 to 510.
conn-type	Connection type. It can be one of the following values: • 1 = Master • 2 = Slave (Default)

Command Modes

AAL2 trunking

Usage Guidelines

You must use the **cnfcac** command prior to using this command to enable CAC at the card level. If the PVC has been configured as master, CAC functionality is applied to the master end of the PVC only.

Examples

The following example shows that CAC is configured at the master end of LCN 131:

```
cnfconcac 131 1
```

Related Commands

Command	Description
cnfcac	Enables or disables the CAC feature on a VISM card.
dspconcac	Displays CAC configuration data for a connection.

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cnfconcacparams

To configure connection admission control (CAC) features on a PVC, use the **cnfconcacparams** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfconcacparams *lcn vad-tol vad-duty-cycle*

Syntax Description

lcn	Logical channel number of the connection; in the range from 131 to 510.
vad-tol	VAD tolerance—the expression for VAD "over-subscription drop ratio" where: tolerance = 10000 x over-subscription drop ratio (expressed as a percentage). A typical value for VAD tolerance is 10. Some examples are: • 10000 (tolerance) = 1% (over subscription drop ratio) • 100 = 0.01% • 10 = 0.001% • 1 = 0.0001% It can be in the range from 0 to 10000. (Default = 100)
vad-duty-cycle	VAD duty cycle—the ratio of speech and holdover duration to total duration expressed as a percentage. Holdover is the period after silence begins and silence suppression is turned on. In VISM, the holdover time is 250 ms. A typical value for this parameter is 61 which means that 61% of the time is taken by speech and holdover. It can be in the range from 1 to 99. (Default = 61)

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures when using this command.

Examples

The following example shows that VAD is configured on LCN 150 with a VAD tolerance of 500 and a VAD duty cycle of 50:

```
cnfconcacparams 150 500 50
```

Related Commands

Command	Description
cnfcac	Enables or disables the CAC feature on a VISM card.

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cnfconcacpol

To configure the policies for fax/modem upspeed connection admission control (CAC) failure and fax/modem carrier loss for calls added to a particular IP or AAL2 LCN, use the **cnfconcacpol** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfconcacpol *lcn carrier-loss-pol cac-reject-pol*

Syntax Description

lcn	Logical channel number of the connection; in the range from 131 to 510.
carrier-loss-pol	Carrier loss policy. It can be one of the following values: • 1 = Revert to the previous codec • 2 = Maintain the upspeed codec • 3 = Unspecified **Note** If you select 3 (unspecified), the card level default is used.
cac-reject-pol	CAC rejection policy. It can be one of the following values: • 1 = Delete the connection • 2 = Maintain the connection • 3 = Unspecified **Note** If you select 3 (unspecified), the card level default is used.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

If you select 3 (unspecified) for the *carrier-loss-pol* or *cac-reject-pol* argument values, the card level default are used.

Examples

The following example shows that LCN 131 is configured with a carrier loss policy of 1 (if carrier is lost, the LCN reverts to the previous codec) and a CAC rejection policy of 2 (the LCN connection is maintained):

```
cnfconcacpol 131 1 2
```

Related Commands

Command	Description
cnfconvbdpol	Configures the policies for fax/modem upspeed CAC failure and fax/modem carrier loss for calls added to a particular IP or AAL2 LCN.

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cnfconprotect

To configure protection on a PVC, use the **cnfconprotect** command in the VoIP switching/trunking operating mode.

cnfconprotect *lcn protect-enable lock-state second-lcn*

Syntax Description

lcn	Primary logical channel number of the connection (PVC); in the range from 131 to 510.
protect-enable	Enables or disables PVC protection. It can be one of the following values: • 1 = On • 2 = Off
lock-state	PVC lock state. It can be one of the following values: • 1 = Unlock • 2 = Lock
second-lcn	Secondary (fallback) logical channel number of the connection (PVC); in the range from 131 to 510.

Command Modes

VoIP switching/trunking

Usage Guidelines

You must use the **addcon** command to add the primary and secondary PVCs before using this command, and ensure that both channels have the same *peak-cell-rate* argument value.

Protect the primary channel using the **cnfconprotect** command and configure the secondary (fallback) LCN.

The primary channel can be locked so that it is inoperative and forces a switchover to the secondary channel. If the primary channel is locked and the secondary channel fails, the connection fails.

If the primary PVC is protected, automatic switchover to a specified secondary PVC occurs if a primary PVC fails.

A protected channel cannot be deleted. To delete the channel, use the **cnfconprotect** command to unprotect the primary channel, delete the secondary channel, and then delete the primary channel.

Examples

The following example shows that LCN 132 is protected and unlocked, and LCN 217 is the secondary (fallback) LCN:

```
cnfconprotect 132 1 1 217
```

Related Commands

There are no related commands.

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cnfconvbdpol

To configure the policies for fax/modem upspeed connection admission control (CAC) failure and fax/modem carrier loss for calls added to a particular IP or AAL2 LCN, use the **cnfconvbdpol** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfconvbdpol *lcn carrier-loss-pol cac-reject-pol*

Syntax Description

lcn	Logical channel number of the connection; in the range from 131 to 510.
carrier-loss-pol	Carrier loss policy. It can be one of the following values: • 1 = Revert to the previous codec • 2 = Maintain the upspeed codec • 3 = Unspecified **Note** If you select 3 (unspecified), the card level default is used.
cac-reject-pol	CAC rejection policy. It can be one of the following values: • 1 = Delete the connection • 2 = Maintain the connection • 3 = Unspecified **Note** If you select 3 (unspecified), the card level default is used.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

If you select 3 (unspecified) for the *carrier-loss-pol* or *cac-reject-pol* argument values, the card level default are used.

Examples

The following example shows that LCN 131 is configured with a carrier loss policy of 1 (if carrier is lost, the LCN reverts to the previous codec) and a CAC rejection policy of 2 (the LCN connection is maintained):

```
cnfconvbdpol 131 1 2
```

Related Commands

Command	Description
cnfconcacpol	Configures the policies for fax/modem upspeed CAC failure and fax/modem carrier loss for calls added to a particular IP or AAL2 LCN.

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cnfconvcci

To associate a virtual circuit connection identifier (VCCI) and a remote address with an LCN, use the **cnfconvcci** in the switched AAL2 PVC operating mode.

cnfconvcci *lcn vcci-num addr-type* |*fe-addr*|

Syntax Description

lcn	Logical channel number of the connection; in the range from 131 to 510.
vcci-num	VCCI number. It can be in the range from 0 to 65535.
addr-type	Address type of the VCCI. It can be one of the following values: • 1 = Not applicable **Note** This address type disassociates a VCCI, far end address type, and far end address from an LCN. • 2 = NSAP (20-byte hexadecimal address) • 3 = E.164 (1- to 15-byte decimal address) • 4 = Gateway ID (1- to 64-byte ASCII character address) • 5 = Unspecified
fe-addr	(Optional) Far end IP address. This argument is optional if the *addr-type* value = 1 or 5. This argument is mandatory if the *addr-type* value = 2, 3, or 4.

Command Modes

Switched AAL2 PVC

Usage Guidelines

The VCCI number does not need to be unique for the not applicable (1) address type, and the far end address is not used.

The combination of VCCI number and far end address must be unique for the following address types:

- NSAP (2)
- E.164 (3)
- Gateway ID (4)

The VCCI number must be unique for the unspecified (5) address type, even though the far end address is not used.

Examples

The following example shows that LCN 131 is not associated with a VCCI or far end address:

```
cnfconvcci 131 1
```

Related Commands

Command	Description
dspcon	Displays the parameters for a specified LCN.

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cnfdeftos

To configure the type of service (ToS) parameters for both control and bearer IP packets, use the **cnfdeftos** command in the VoIP switching/trunking operating mode.

cnfdeftos *control-prec control-tos* |*bearer-prec bearer-tos*|

Syntax Description

control-prec	Control precedence. It can be in the range from 0 to 7. (Default = 3)
control-tos	Control ToS (conforms to RFC 1349). It can be one of the following values: • 0 = Default • 1 • 2 • 4 • 8
bearer-prec	(Optional) Bearer precedence (conforms to RFC 791). It can be in the range from 0 to 7. (Default = 5)
bearer-tos	(Optional) Bearer ToS. It can be one of the following values: • 0 = Default • 1 • 2 • 4 • 8

Command Modes

VoIP switching/trunking

Usage Guidelines

The ToS bearer parameters—configured with the *bearer-prec* and *bearer-tos* arguments—are used during call setup in cases where the parameters are not supplied by the call agent. If you do not use this command, the card level default values are applied.

Examples

The following example shows that bearer IP packets are configured with a control precedence of 3 and a control ToS of 2, and the control IP packets are configured with a bearer precedence of 2 and a bearer ToS of 4:

```
cnfdeftos 3 2 2 4
```

Related Commands

There are no related commands.

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cnfdisctimers

To specify the wait delay times for the disconnected procedure, restart in progress command—initial, minimum, and maximum timer values—use the **cnfdisctimers** command in the VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC operating modes.

cnfdisctimers *init-wait-time min-wait-time max-wait-time*

Syntax Description

init-wait-time	Initial disconnect waiting delay time (defined in seconds). In the range from 1 to 100.
min-wait-time	Minimum disconnect waiting delay time (defined in seconds). In the range from 0 to 100.
max-wait-time	Maximum disconnect waiting delay time (defined in seconds). In the range from 1 to 5000.

Command Modes

VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

You must use the **cnfmgcgrpprotocol** command and select the disconnect type method for Restart in Progress commands before you can use this command.

Examples

The following example shows that an initial disconnect waiting time of 30 seconds, a minimum disconnect waiting time of 0 seconds, and a maximum disconnect waiting time of 120 seconds is configured for the current VISM card:

```
cnfdisctimers 30 0 120
```

Related Commands

Command	Description
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfmgcgrpprotocol	Configures call agent group protocol data.
cnfxgcppeer	Configures the UDP port number used to send gateway-initiated messages to the call agent.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspdisctimers	Displays the Restart in Progress command disconnect type method wait delay times.

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cnfdn

To configure the resolution type of a specified domain name, use the **cnfdn** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfdn *domain-num resol-type*

Syntax Description

domain-num	Domain number used to identify the domain in the range from 1 to 11.
resol-type	(Optional) Resolution type to configure for the specified domain name. It can be one of the following values: • 1 = Internal only. You must statistically provision all IP addresses on the VISM card for the domain name. The VISM card does not resolve the domain name using an external domain name server (DNS). • 2 = External only. The VISM card attempts to resolve the domain name using an external DNS. Statistically configured IP addresses for this domain name are not used. • 3 = Internal first. The VISM card attempts to resolve the domain name using an external DNS. The VISM card uses the statistically provisioned IP addresses for this domain name before using IP addresses from external resolution. • 4 = External first. The VISM card attempts to resolve the domain name using an external DNS. The VISM card uses IP addresses from external resolution before using the statistically provisioned IP addresses.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the domain name represented by domain number 2 is configured for external-only resolution type:

```
cnfdn 2 2
```

Related Commands

Command	Description
adddn	Adds a domain name (call agent name) and optionally configures the resolution type of the domain name.
adddnip	Adds the IP addresses for a domain name that you added by using the **adddn** command.
cnfdnssrvr	Designates a domain name as a DNS.
deldn	Deletes a domain name.
deldnip	Deletes a statistically provisioned IP address of a domain name.
dspdnallips	Displays all statistically provisioned IP addresses and externally resolved IP addresses for all domain names configured on the current VISM card.

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Command	Description
dspdnips	Displays all statistically provisioned and externally resolved IP addresses configured for a specified domain name.
dspdns	Displays the configuration data of all domain names of a call agent.
dspdnssrvr	Displays the domain name of the configured DNS of the current VISM card.

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cnfdnssrvr

To designate a domain name as a domain name server (DNS), use the **cnfdnssrvr** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfdnssrvr *dns-domain-name*

Syntax Description

dns-domain-name	Domain name which you want to designate, or remove, as a DNS. It can be one of the following: • A text string of 1 to 64 alphanumeric characters. • NULL = removes the configured DNS from VISM. **Note** NULL is case sensitive.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

You must configure the domain name for internal-only resolution and provision at least one IP address for the domain name.

Examples

The following example shows that the callagent99 domain name is configured as the DNS:

```
adddn 1 callagent99 1
adddnip 1 callagent99 209.165.200.224
cnfdnssrvr callagent99
```

Related Commands

Command	Description
adddn	Adds a domain name (call agent name) and optionally configures the resolution type of the domain name.
adddnip	Adds the IP addresses for a domain name that you added by using the **adddn** command.
cnfdn	Configures the resolution type of a specified domain name.
deldn	Deletes a domain name.
deldnip	Deletes a statistically provisioned IP address of a domain name.
dspdnallips	Displays all statistically provisioned IP addresses and externally resolved IP addresses for all domain names configured on the current VISM card.
dspdnips	Displays all statistically provisioned and externally resolved IP addresses configured for a specified domain name.
dspdns	Displays the configuration data of all domain names of a call agent.
dspdnssrvr	Displays the domain name of the configured DNS of the current VISM card.

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cnfdpvcoamparams

To configure the transmitted and received permanent virtual circuit (PVC) Operations, Administration, and Maintenance (OAM) cell parameters, use the **cnfdpvcoamparams** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfdpvcoamparams *cell-gap recov-cell-num unack-cell-num*

Syntax Description

cell-gap	Intercell gap—the time between cells (defined in milliseconds). It can be in the range from 10 to 5000. (Default = 500)
recov-cell-num	Recovery indication cell count—the number of cells that must be received before a PVC is considered recovered from a failure. It can be in the range from 1 to 20. (Default = 3)
unack-cell-num	Unacknowledge indication cell count—the number of cells that must be unacknowledged before a PVC is declared as failed. It can be in the range from 1 to 20. (Default = 5)

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the transmitted and received PVC OAM parameters are configured with a 20 ms intercell gap, a 5-cell recovery indication cell count, and a 10-cell unacknowledge indication cell count:

```
cnfdpvcoamparams 20 5 10
```

Related Commands

Command	Description
dspdpvcoamparams	Displays the transmitted and received PVC OAM cell parameters.

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cnfds0gain

To configure the adjustable gain for a specified DS0, use the **cnfds0gain** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfds0gain *line-num ds0-num input-gain output-atten*

Syntax Description

line-num	Line number of the DS0 that you want to configure the adjustable gain. In the range from 1 to 8.
ds0-num	DS0 number on which to configure adjustable gain. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines
input-gain	Input gain (defined in decibels). It can be in the range from –60 to 140 in increments of 10.
output-atten	Output attenuation (defined in decibels). It can be in the range from 0 to 140 in increments of 10.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking.

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the VISM card line number 2, DS0 number 13, is configured with a –10-dB input gain value and a 60-dB output attenuation value:

```
cnfds0gain 2 13 -10 60
```

Related Commands

Command	Description
cnfgain	Configures the adjustable gain for a VISM card.
cnflngain	Configures the adjustable gain for all DS0s on a specified VISM card line.
dspds0gain	Displays the adjustable gain values for a specified DS0.
dspgain	Displays the adjustable gain for a specified VISM card.
dsplngain	Displays the adjustable gain for a specified VISM card line.

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cnfds0localcas

To configure a local channel associated signaling (CAS) 4-bit pattern for a T1 line and DS0, use the **cnfds0localcas** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfds0localcas *line-num ds0-num local-cas-enable* |*local-cas-pattern*|

Syntax Description

line-num	T1 line number on which to configure a local CAS bit pattern; in the range from 1 to 8.
ds0-num	DS0 number on which to configure a local CAS bit pattern. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines
local-cas-enable	Enables or disables the local CAS pattern indicated by the *local-cas-pattern* argument. It can be one of the following values: • 1 = Enabled • 2 = Disabled
local-cas-pattern	(Optional) The local 4-bit pattern expressed as a number in the range from 1 (default) to 15. The value specifies, in binary, the value of the A, B, C, and D signaling bits. **Note** If local CAS is enabled (*local-cas-enable* argument = 1), this argument is mandatory.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

If a DS0 is configured for local CAS, the framer forces the CAS bits to a value defined by the *local-cas-pattern* argument in this command.

This command is not allowed if any of the following conditions are present:

- The line signaling type is CAS.
- The line is not enabled.
- The DS0 is in a remote loop state.

Note This command is allowed for T1 lines only.

Examples

The following example shows that T1 line 2, DS0 number 12 is configured with a local 4-bit pattern represented by a value of 3 (0011 in binary):

```
cnfds0localcas 2 12 1 3
```


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Related Commands

Command	Description
dspds0localcasstatus	Displays the currently configured local CAS status for a line and DS0.

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cnfds0loop

To configure a loopback type for a specified line and DS0, use the **cnfds0loop** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfds0loop *line-num ds0-num loopback-type*

Syntax Description

line-num	Line number of the channel to be configured for a loopback type; in the range from 1 to 8.
ds0-num	DS0 number of the channel to be configured for a loopback type. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines
loopback-type	The type of loopback to be used on the channel. It can be one of the following values: • 1 = No loopback • 2 = Remote loopback • 3 = Local loopback

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the loopback type of line 2, DS0 12 is configured as remote:

```
cnfds0loop 2 12 2
```

Related Commands

There are no related commands.

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cnfds0musicthreshold

To configure the music on-hold threshold for a specified DS0, use the **cnfds0musicthreshold** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfds0musicthreshold *line-num ds0-num music-thresh*

Syntax Description

line-num	Line number for which you want to configure the music on-hold threshold. In the range from 1 to 8.
ds0-num	DS0 number for which you want to configure the music on-hold threshold. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines
music-thresh	Music on-hold threshold (defined in decibels). It can be in the range from –70 to –30.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the VISM card line number 2, DS0 number 30 is configured with a –45 dB music on-hold threshold value:

```
cnfds0musicthreshold 2 30 -45
```

Related Commands

Command	Description
cnflnmusicthreshold	Configures the music on-hold threshold for all DS0s on a specified line.
cnfmusicthreshold	Configures the music on-hold threshold value for the current VISM card.
dspds0musicthreshold	Displays the music on-hold threshold value for a specified DS0.
dsplnmusicthreshold	Displays the music on-hold threshold values for the DS0s on a specified line.
dspmusicthreshold	Displays the music on-hold threshold values for the current VISM card.

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cnfecanenable

To enable or disable echo cancellation on a line, use the **cnfecanenable** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfecanenable *line-num ecan-enable*

Syntax Description

line-num	Line number of the channel to be configured for a loopback type; in the range from 1 to 8.
ecan-enable	Enables or disables echo cancellation. It can be one of the following values: • 1 = On • 2 = Off

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that ECAN is enabled on line 2 of the current VISM card:

```
cnfecanenable 2 1
```

Related Commands

Command	Description
cnfecanrec	Configures the residual echo control for DSPs on a VISM card that is used for ECAN.
cnfecantail	Configures the maximum tail length for DSPs on a VISM card that is used for ECAN.
dsplndsp	Displays the DSP information for a line.

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cnfecanrec

To configure residual echo control for digital signal processors (DSPs) on a VISM card line that is used for echo cancellation, use the **cnfecanrec** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfecanrec *line-num res-echo-control*

Syntax Description

line-num	Line number to configure with residual echo control; in the range from 1 to 8.
res-echo-control	Residual echo control for a VISM card line. It can be one of the following values: • 1 = Cancel only • 2 = Suppress residual • 4 = Comfort noise

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

This command applies to DSPs processing data on a specified line.

Examples

The following example shows that line 1 of the current VISM card is configured with comfort noise residual echo control:

```
cnfecanrec 1 4
```

Related Commands

Command	Description
cnfecanenable	Enables or disables ECAN on a specified VISM card line.
cnfecantail	Configures the maximum tail length for DSPs on a VISM card that is used for echo cancellation.
dsplndsp	Displays the DSP information for a specified VISM card line.

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cnfecantail

To configure the maximum tail length for digital signal processors (DSPs) on a VISM card that is used for echo cancellation, use the **cnfecantail** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfecantail *line-num max-ecan-tail*

Syntax Description

line-num	Line number to configure maximum ECAN tail length; in the range from 1 to 8.
max-ecan-tail	Maximum tail length (defined in milliseconds). It can be one of the following values: • 24 • 32 (Default) • 48 • 64 • 80 • 96 • 112 • 128

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

This command applies to DSPs processing data on a specified line.

Examples

The following example shows that line 3 of the current VISM card is configured with a maximum ECAN tail length of 96 ms:

```
cnfecantail 3 96
```

Related Commands

Command	Description
cnfecanenable	Enables or disables ECAN on a specified VISM card line.
cnfecanrec	Configures the residual echo control for DSPs on a VISM card that is used for ECAN.
dsplndsp	Displays the DSP information for a specified VISM card line.

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cnfendptcadence

To configure cadence (digit tone) times for an endpoint, use the **cnfendptcadence** command in the VoIP switching/trunking and AAL2 trunking operating modes.

cnfendptcadence *endpt-num tone-on-time tone-off-time*

Syntax Description

endpt-num	Endpoint number. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
tone-on-time	Length of time (defined in milliseconds) a digit tone is generated. It can be in the range from 2 to 9999. (Default = 75)
tone-off-time	Length of time (defined in milliseconds) silence is maintained between digit tone generation. It can be in the range from 0 to 9999. (Default = 75)

Command Modes

VoIP switching/trunking and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that endpoint 20 is configured with 100 ms digit tone generation time length and 100 ms silence time length between generated tones:

```
cnfendptcadence 20 100 100
```

Related Commands

There are no related commands.

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cnferl

To configure a digital signal processor (DSP) return echo loss value, use the **cnferl** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnferl *echo-ret-loss*

Syntax Description

echo-ret-loss	Echo return loss to be applied by echo cancellation DSPs. It can be one of the following values: • 1 = 0 dB • 2 = –3 dB • 3 = –6 dB • 4 = –10 dB

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures when using this command.

Examples

The following example shows that a 6-dB echo return loss value is configured for the current VISM card's echo cancellation DSP:

```
cnferl 3
```

Related Commands

There are no related commands.

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cnfgain

To configure the adjustable gain for a VISM card, use the **cnfgain** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfgain *input-gain output-atten*

Syntax Description

input-gain	Input gain (defined in decibels). It can be in the range from –60 to 140 in increments of 10.
output-atten	Output attenuation (defined in decibels). It can be in the range from 0 to 140 in increments of 10.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

This command allows you to configure the gain for an entire VISM card. The values you configure with this command are permanent and remain on the VISM card after any resets.

Examples

The following example shows that the current VISM card is configured with a –10-dB input gain value and a 60-dB output attenuation value:

```
cnfgain -10 60
```

Related Commands

Command	Description
cnfds0gain	Configures the adjustable gain for a specified DS0.
cnflngain	Configures the adjustable gain for all DS0s on a specified VISM card line.
dspds0gain	Displays the adjustable gain values for a specified DS0.
dspgain	Displays the adjustable gain for a specified VISM card.
dsplngain	Displays the adjustable gain for all DS0s on a specified VISM card line.

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cnfgwis

To configure an out-of-service VISM card to the in-service state, use the **cnfgwis** command in the VoIP switching/trunking operating mode.

cnfgwis

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

This command causes an RSIP notification to be sent to the call agent.

Examples

The following example shows that the current VISM card is configured to the in-service state:

```
cnfgwis
```

The VISM card prompt terminates with an *a* to indicate the in-service state:

```
NODENAME.1.9.VISM8.a
```

Related Commands

Command	Description
cnfgwoos	Configures an in-service VISM card to the out-of-service state.

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cnfgwoos

To configure an in-service VISM card to the out-of-service state, use the **cnfgwoos** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfgwoos *oos-method*

Syntax Description

oos-method	VISM card's method of reaching the out-of-service state. It can be one of the following values: • 2 = Forceful. Existing connections are deleted and the VISM card transitions to the "commandedOutOfService" state. New connection requests are rejected. • 3 = Graceful. Existing connections are not released and allowed to terminate naturally. Immediately after this command is executed, the VISM card transitions to the "pendingOutOfService state". New connection requests are rejected. The VISM card transitions to the 'commandedOutOfService' state only when all ongoing connections are deleted by the call agent.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Associated call agents are notified of VISM card state changes with an RSIP notification.

Examples

The following example shows that the current VISM card is placed in the out-of-service state forcefully:

```
cnfgwoos 2
```

The VISM card prompt terminates with an *s* to indicate the out-of-service (standby) state:

```
NODENAME.1.9.VISM8.s
```

Related Commands

Command	Description
cnfgwis	Configures an out-of-service VISM card to the in-service state.
dspgwstate	Displays the current user-configured service states of the gateway.

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cnfjtrinitdelay

To configure the initial jitter buffer delay size, use the **cnfjtrinitdelay** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating mode.

cnfjtrinitdelay *jitter-buffer-size*

Syntax Description

jitter-buffer-size	Jitter buffer size setting (defined in milliseconds). It can be a value from one of the following ranges: • For template numbers 1, 3, and 4, in the range from 0 to 100 in increments of 10. • For template number 2, in the range from 0 to 100 in increments of 5.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Determine the current jitter delay mode you configured with the **cnfjtrmode** command. If the mode is set to fixed (set by the command) the jitter buffer size is fixed at the value you indicate for the *jitter-buffer-size* argument for the duration of the call. If the mode is set to adaptive, the jitter buffer size is set initially to the value you indicate for the *jitter-buffer-size* argument and the digital signal processor (DSP) adapts the jitter buffer size to an optimal size.

Changing the *jitter-buffer-size* argument value does not affect existing channel identifiers (CIDs). The new value is sent to the DSPs only when CIDs are open.

Table 5-2 lists the default codec type initial delay values in milliseconds.

Table 5-2 Codec Type Default Values

Codec Type	Delay Mode	Initial Delay (ms)
G.711u	Fixed	100
G.711a	Fixed	100
G.726-32k	Adaptive	60
G.729a	Adaptive	60
G.729ab	Adaptive	60
Clear channel	Fixed	100
G.726-16k	Adaptive	60
G.726-24k	Adaptive	60
G.726-40k	Adaptive	60
G.723.1-H[1]		
G.723.1a-H[1]		
G.723.1-L[1]		
G.723.1a-L[1]		

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1. The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

Examples

The following example shows that the jitter buffer size is set to 70 milliseconds:

```
cnfjtrinitdelay 70
```

Related Commands

Command	Description
cnfjtrmode	Sets the jitter delay algorithm to fixed or adaptive.
dspcarddsp	Displays all current card level parameters for ECAN and voice compression DSPs.
dspcodecjtrdelays	Displays the configured codec jitter delay modes and associated jitter initial delays.

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cnfjtrmode

To configure the jitter algorithm with a fixed or adaptive buffer, use the **cnfjtrmode** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfjtrmode *jitter-mode*

Syntax Description

jitter-mode	Jitter delay mode. It can be one of the following values: • 1 = Fixed. Cisco recommends fixed mode if latency jitter is constant. • 2 = Adaptive. Cisco recommends adaptive if latency jitter is variable.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Changing the *jitter-mode* argument value does not affect any existing CIDs. The value is sent to the DSPs only when CIDs are open.

Examples

The following example shows that the jitter delay mode is set to adaptive:

```
cnfjtrmode 2
```

Related Commands

Command	Description
cnfjtrinitdelay	Configures the jitter buffer size.
dspcarddsp	Displays all current card-level parameters for ECAN and voice compression DSPs.
dspcodecjtrdelays	Displays the configured codec jitter delay modes and associated jitter initial delays.

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cnflapdretrans

To configure a maximum number of frame retransmissions for a previously added Link Access Protocol D channel (LAPD), use the **cnflapdretrans** command in the VoIP switching/trunking operating mode.

cnflapdretrans *line-num ds0-num n200*

Syntax Description

line-num	Line number of the D channel to be configured. In the range from 1 to 8.
ds0-num	DS0 number that was specified in the **addlapd** command. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines
n200	Maximum frame retransmissions in the range from 1 to 10.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that line 2, DS0 12 is configured with a maximum number of 10 frame retransmission attempts:

```
cnflapdretrans 2 12 10
```

Related Commands

Command	Description
cnflapdtimer	Configures two LAPD timers for a previously added LAPD.
cnflapdtype	Configures the various types of LAPD stacks for a previously added LAPD.
cnflapdwinsize	Configures the maximum number of outstanding (unacknowledged) I-frames.

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cnflapdtimer

To configure two LAPD timers for a previously added Link Access Protocol D channel (LAPD), use the **cnflapdtimer** command in the VoIP switching/trunking operating mode.

cnflapdtimer *line-num ds0-num frame-trans-time frame-exchange-time*

Syntax Description

line-num	Line number of the D channel to be configured. In the range from 1 to 8.
ds0-num	DS0 number that was specified in the **addlapd** command. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines
frame-trans-time	T200 timer. Time (defined in milliseconds) between frame transmission initiations. It can be a value from one of the following ranges: • 1000 to 1023000 for PRI—in increments of 50 • 100 to 350 for GR-303—in increments of 50 **Note** This value must be less than the value you specify for the *frame-exchange-time* argument value.
frame-exchange-time	T203 timer. Maximum time (defined in milliseconds) allowed without a frame being exchanged. It can be a value from one of the following ranges: • 1000 to 1023000 for PRI (default = 1000)—in increments of 1000 • 10000 to 300000 for GR-303 (default is 30000)—in increments of 10000 **Note** This value must be greater than the value you specify for the *frame-trans-time* argument value.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI command procedures.

Examples

The following example shows that line 2, DS0 12 is configured with 10000 ms between frame transmission initiations (timer T200) and 20000 ms as a maximum time allowed without a frame being exchanged (timer T203):

```
cnflapdtimer 2 12 10000 20000
```

Related Commands

Command	Description
cnflapdretrans	Configures a maximum number of frame retransmissions for a previously added LAPD.

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Command	Description
cnflapdtype	Configures the various types of LAPD stacks for a previously added LAPD.
cnflapdwinsize	Configures a maximum allowed number of outstanding (unacknowledged) I-frames on a previously added LAPD.

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cnflapdtrunkpvc

To assign the permanent virtual circuit (PVC) trunk type that carries Link Access Protocol D channel (LAPD) messages for the current VISM card, use the **cnflapdtrunkpvc** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnflapdtrunkpvc *lapd-trunk-type*

Syntax Description

lapd-trunk-type	LAPD trunk PVC type. It can be one of the following values: • 1 = Control • 2 = Bearer (Default)

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the current VISM card is assigned the control PVC trunk type to carry LAPD messages:

```
cnflapdtrunkpvc 1
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.

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Command	Description
dsprtpcon	Displays the configuration data of a specified static RTP VoIP trunking connection.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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cnflapdtype

To configure the various types of Link Access Protocol D channel (LAPD) stacks for a previously added LAPD, use the **cnflapdtype** command in the VoIP switching/trunking operating mode.

cnflapdtype *line-num ds0-num lapd-type*

Syntax Description

line-num	Line number of the D channel to be configured. In the range from 1 to 8.
ds0-num	DS0 number that was specified in the **addlapd** command. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines
lapd-type	Type of LAPD stack to configure on the specified line and DS0. It can be one of the following values: • 1 = ITU • 3 = ATT5ESSPRA • 4 = ATT4ESS • 6 = NTDMS100PRA • 7 = VN2 or 3 • 8 = INSNet • 9 = TR6MFC • 10 = TR6PBX • 12 = AUSP • 13 = NIL • 14 = SSETSI • 15 = BC303TMC • 16 = BC303CSC • 17 = NTDMS250 • 18 = Bellcore • 19 = NI2

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that line 2, DS0 12 is configured with the AUSP LAPD stack type:

```
cnflapdtype 2 12 12
```


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Related Commands

Command	Description
cnflapdretrans	Configures a maximum number of frame retransmissions for a previously added LAPD.
cnflapdtimer	Configures two LAPD timers for a previously added LAPD.
cnflapdwinsize	Configures a maximum number of outstanding (unacknowledged) I-frames for a previously added LAPD.

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cnflapdwinsize

To configure a maximum number of outstanding (unacknowledged) I-frames, use the **cnflapdwinsize** command in the VoIP switching/trunking operating mode.

cnflapdwinsize *line-num ds0-num iframe-num*

Syntax Description

line-num	Line number of the D channel to be configured. In the range from 1 to 8.
ds0-num	DS0 number that was specified in the **addlapd** command. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines
iframe-num	Maximum number of outstanding (unacknowledged) I-frames that can be accumulated before sending an acknowledgment. It can be in the range from 1 to 127.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that line 2, DS0 12 is configured with an LAPD window size of 10—a maximum number of 10 I-frames can be accumulated before sending an acknowledgment:

```
cnflapdwinsize 2 12 10
```

Related Commands

Command	Description
cnflapdretrans	Configures a maximum number of frame retransmissions for a previously added LAPD.
cnflapdtimer	Configures two LAPD timers for a previously added LAPD.
cnflapdtype	Configures the various types of LAPD stacks for a previously added LAPD.

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cnfln

To configure characteristics for a VISM card line, use the **cnfln** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfln *line-num line-code line-length clock-source line-type loop-detection*

Syntax Description

line-num	Line number with which to configure characteristics. In the range from 1 to 8.
line-code	Line coding method. It can be one of the following values: • 2 = Bipolar 8-zero substitution (B8ZS), for T1 • 3 = High-density bipolar 3 (HDB3), for E1 • 4 = Alternate mark inversion (AMI), for T1 or E1
line-length	Line length. It can be one of the following values: • 8 = For E1 cards with an SMB back card • 9 = For E1 cards with an RJ48 back card • 10 = 0 to 131 feet, for T1 • 11 = 131 to 262 feet, for T1 • 12 = 262 to 393 feet, for T1 • 13 = 393 to 524 feet, for T1 • 14 = 524 to 655 feet, for T1 • 15 = More than 655 feet, for T1
clock-source	Clock source. It can be one of the following values: • 1 = Loop clock. The loop clock source is from the line specified by the *line-num* argument. The local clock source is from the MGX 8000 Series platform. • 2 = Local clock. The local clock source is from the MGX 8000 Series platform. **Note** Refer to the "Configuring the PXM and VISM Cards Clocking Source" section on page 4-14, the "Expanded Clock Source Selection" section on page 4-69, and Appendix A, "VISM and VISM-PR Card Clocking Options," for clocking rules.

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line-type	Line type. It can be one of the following values: • 1 = DSx1ESF • 2 = DSx1D4 • 3 = E1 • 4 = E1CRC • 5 = E1MF • 6 = E1MFCRC • 7 = E1 Clear • 8 = • 9 =
loop-detection	Loopback code detection. It can be one of the following values: • 1 = Disabled • 2 = Enabled

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

You must add the line indicated by the *line-num* argument value with the **addln** command before using this command. You must include all argument values when using this command; however, the *line-num* and *clock-source* arguments are the only relevant arguments for configuring the clocking source on your VISM cards.

Examples

The following example shows that line 2 is configured with HDB3 coding, SMB E1 back card line length, loop clocking, E1 line type, and loopback detection disabled:

```
cnfln 2 3 8 1 3 1
```

Related Commands

Command	Description
addln	Adds a T1 or E1 line to a VISM card.
delln	Deletes a DS1 line on a VISM card.

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cnflndigitorder

To assign the order in which automatic number identification (ANI) digits—the caller's number—and dialed number identification service (DNIS) digits—the called number—are dialed during an outgoing Feature Group D (FGD) call on the endpoints of a specified VISM card line, use the **cnflndigitorder** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnflndigitorder *line-num digit-order*

Syntax Description

line-num	Line number for which to configure dialed digit order. In the range from 1 to 8.
digit-order	ANI and DNIS digit order. It can be one of the following values: • 1 = ANI digits followed by DNIS digits. • 2 = DNIS digits followed by ANI digits.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

The ANI and DNIS digits are sent as part of the MGCP setup message.

Examples

The following example shows that the current VISM card's line number 7 is assigned a digit order of DNIS digits first, followed by ANI digits, for digits dialed during an outgoing FGD call:

```
cnflndigitorder 7 2
```

Related Commands

Command	Description
cnfcasflashtime	Configures the minimum and maximum CAS on-hook time periods for incoming flash hooks on a specified endpoint.
cnfcasglareattrib	Configures the direction of CAS calls and the glare policy for a specified endpoint.
cnfcaspackage	Configures MGCP packages to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
delxgcppersistevt	Deletes a persistent xGCP event.
dspcasglareattrib	Displays the direction of CAS calls and the glare policy for a specified endpoint.
dspcaspackage	Displays the MGCP packages configured to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
dspcastimers	Displays the currently configured CAS timers for a specified endpoint.
dsplndigitorder	Displays the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.

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cnflngain

To configure the adjustable gain for all DS0s on a specified VISM card line, use the **cnflngain** (Configure Line Gain) command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnflngain *line-num input-gain output-atten*

Syntax Description

line-num	Line number that you want to configure the adjustable gain. In the range from 1 to 8.
input-gain	Input gain (defined in decibels). It can be in the range from –60 to 140 in increments of 10.
output-atten	Output attenuation (defined in decibels). It can be in the range from 0 to 140 in increments of 10.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the VISM card line number 2 is configured with a –10-dB input gain value and a 60-dB output attenuation value:

```
cnfgain 2 -10 60
```

Related Commands

Command	Description
cnfds0gain	Configures the adjustable gain for a specified DS0.
cnfgain	Configures the adjustable gain for a VISM card.
cnfplngain	Configures the adjustable gain for a specified VISM card line.
dspds0gain	Displays the adjustable gain values for a specified DS0.
dspgain	Displays the adjustable gain for a specified VISM card.

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cnflnis

To configure an out-of-service VISM card line to the in-service state, use the **cnflnis** command in the VoIP switching/trunking operating mode.

cnflnis *line-num*

Syntax Description

line-num	Line number you want to bring to the in-service state. In the range from 1 to 8.

Command Modes

VoIP switching/trunking

Usage Guidelines

The configured in-service state is not maintained after a VISM card reboot. If you reboot a VISM card previously configured to the in-service state with this command, you must use this command again to configure the associated lines back to the in-service state, as needed.

Examples

The following example shows that line 2 is configured with the in-service state:

```
cnflnis 2
```

Related Commands

Command	Description
cnflnoos	Configures an in-service VISM card line to the out-of-service state.
dspgwstate	Displays the current user-configured service state of the gateway.
dsplnstate	Displays the service state of a VISM card line with respect to the xGCP protocol.

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cnflnmusicthreshold

To configure the music on-hold threshold for all DS0s on a specified line, use the **cnflnmusicthreshold** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnflnmusicthreshold *line-num music-thresh*

Syntax Description

line-num	Line number for which you want to configure the music on-hold threshold. In the range from 1 to 8.
music-thresh	Music on-hold threshold (defined in decibels). It can be in the range from –70 to –30.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the VISM card line number 3 DS0s are configured with –45 dB music on-hold threshold:

```
cnflnmusicthreshold 3 -45
```

Related Commands

Command	Description
cnfds0musicthreshold	Configures the music on-hold threshold for a specified DS0.
cnfmusicthreshold	Configures the music on-hold threshold value for the current VISM card.
dspds0musicthreshold	Displays the music on-hold threshold value for a specified DS0.
dsplnmusicthreshold	Displays the music on-hold threshold values for the DS0s on a specified line.
dspmusicthreshold	Displays the music on-hold threshold values for the current VISM card.

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cnflnoos

To configure an in-service VISM card line to the out-of-service state, use the **cnflnoos** command in the VoIP switching/trunking operating mode.

cnflnoos *line-num oos-method*

Syntax Description

line-num	Line number you want to bring to the out-of-service state. In the range from 1 to 8.
oos-method	VISM card's method of reaching the out-of-service state. It can be one of the following values: • 2 = Forceful. Existing connections are deleted and the VISM card transitions to the 'commandedOutOfService' state. New connection requests are rejected. • 3 = Graceful. Existing connections are not released and allowed to terminate naturally. Immediately after this command is executed, the VISM card transitions to the 'pendingOutOfService state'. New connection requests are rejected. The VISM card transitions to the 'commandedOutOfService' state only when all ongoing connections are deleted by the call agent.

Command Modes

VoIP switching/trunking

Usage Guidelines

The configured in-service state is not maintained after a VISM card reboot. If you reboot a VISM card previously configured to the out-of-service state with this command, you must use this command again to configure the associated lines back to the out-of-service state, as needed.

Examples

The following example shows that line 3 is configured to the out-of-service state gracefully:

```
cnflnoos 3 3
```

Related Commands

Command	Description
cnflnis	Configures an out-of-service VISM card line to the in-service state.

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cnflnringback

To configure the ringback tone method for a specified line on the current VISM card, use the **cnflnringback** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnflnringback *line-num ringb-method*

Syntax Description

line-num	Line number for which you want to configure the ringback method. In the range from 1 to 8.
ringb-method	Ringback tone method. It can be one of the following values: • 1 = Proxy (Default). The VISM sends the appropriate packet—Named Signaling Event (NSE), NSE, Network Transmission Element (NTE), or AAL2 type 3—for the ringback tone to the originating VISM which generates the ringback tone toward the TDM network. • 2 = Inband. The VISM generates the inband ringback tone toward the originating VISM over the packet network and the originating VISM plays the ringback tone.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

The ringback method is used when a call agent requests the terminating VISM to play the ringback tone remotely (toward the packet network).

Examples

The following example shows that the current VISM card line 4 is configured with the inband ringback tone method:

```
cnflnringback 4 2
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.

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Command	Description
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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cnflnsig

To configure the signaling mode for a VISM card line, use the **cnflnsig** command in the AAL2 trunking operating mode.

cnflnsig *line-num line-signal-type*

Syntax Description

line-num	Line number you want to bring to the out-of-service state. In the range from 1 to 8.
line-signal-type	Signaling type of the line. It can be one of the following values: 1 = Channel associated signaling (CAS) 2 = Common channel signaling (CCS) 3 = No signaling

Command Modes

AAL2 trunking

Usage Guidelines

You are required to confirm your entry when using this command to ensure that the signaling type is not changed while endpoints are configured for the line indicated by the *line-num* argument.

This command is not allowed when CIDs or CCS channels are present.

You must configure the line type as either E1MF or E1MFCRC for E1 lines; otherwise, this command is invalid and does not process.

Examples

The following example shows that line 3 is configured for CCS:

```
cnflnsig 3 2
```

Related Commands

Command	Description
dspln	Displays the characteristics of a VISM card line.

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cnflntoneplan

To assign a built-in or provisional tone plan to a specified VISM card line, use the **cnflntoneplan** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnflntoneplan *line-num tonep-region tonep-version*

Syntax Description

line-num	Line number for which you want to assign a tone plan. In the range from 1 to 8.
tonep-region	Tone plan country or region which you want to assign to a VISM card line. It can be in the range from 1 to 64 alphanumeric characters and can contain underscores (_). This value is case sensitive.
tonep-version	Tone plan version number of the tone plan country or region you want to assign to a VISM card line. It can be in the range from 1 to 65535.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

If you are assigning a provisional tone plan to a VISM card line, you must use the **addtoneplan** command before you use this command. The command allows you to assign a new tone plan (overwrite a previous configuration) to a VISM card line.

Examples

The following example shows that the VISM card line 2 is assigned the tone plan identified by tone plan region sing_3 and tone plan version 2:

```
cnflntoneplan 2 sing_3 2
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.

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Command	Description
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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cnflntonetimeout

To modify the timeout periods of call progress tones supported by VISM on a specified VISM card line, use the **cnflntonetimeout** command in the VoIP switching/trunking, AAL1 switching, switched AAL2 SVC, switched AAL2 PVC, and VoIP and switched ATM AAL1 SVC operating modes.

cnflntonetimeout *line-num remote-ringb-tout local-ringb-tout busy-tout reorder-tout dial-tout stutter-tout offhook-tout*

Syntax Description

line-num	Line number for which you want to modify tone timeout periods (defined in seconds). In the range from 1 to 8.
remote-ringb-tout	Remote ringback tone timeout period (defined in seconds). It can be in the range from 0 to 3600. (Default = 180)
local-ringb-tout	Local ringback tone timeout period (defined in seconds). It can be in the range from 0 to 3600. (Default = 180)
busy-tout	Busy tone timeout period (defined in seconds). It can be in the range from 0 to 3600. (Default = 30)
reorder-tout	Reorder tone timeout period (defined in seconds). It can be in the range from 0 to 3600. (Default = 30)
dial-tout	Dial tone timeout period (defined in seconds). It can be in the range from 0 to 3600. (Default = 16)
stutter-tout	Stutter dial tone timeout period (defined in seconds). It can be in the range from 0 to 3600. (Default = 16)
offhook-tout	Offhook tone timeout period (defined in seconds). It can be in the range from 0 to 3600. (Default = 5)

Command Modes

VoIP switching/trunking, AAL1 switching, switched AAL2 SVC, switched AAL2 PVC, and VoIP and switched ATM AAL1 SVC

Usage Guidelines

You can configure timeout periods of the following tones:

- Ringback
- Busy
- Reorder (also known as the fastbusy or the network congestion tone)
- Dial
- Stutter dial
- Offhook alert

Note A tone timeout argument value set to 0 indicates an infinite timeout—the tone will play indefinitely unless it is stopped by an event.

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Examples

The following example shows that the VISM card line number 7 is configured with a 200-second remote ringback tone timeout period, a 180-second local ringback tone timeout period, a 210-second busy tone timeout period, a 400-second reorder tone timeout period, a 1000-second dial tone timeout period, a 2000-second stutter dial tone timeout period, and a 500-second offhook tone timeout period:

```
cnflntonetimeout 7 200 180 210 400 1000 2000 3000 500
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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cnflntrunkcond

To enable or disable line conditioning on a VISM card line if a network alarm is encountered, use the **cnflntrunkcond** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

cnflntrunkcond *line-num cond-enable*

Syntax Description

line-num	Line number for which you want enable or disable line conditioning. In the range from 1 to 8.
cond-enable	Line trunk conditioning status. It can be one of the following options: • 1 = Enable. VISM performs trunk conditioning on each affected DS0 if an alarm occurs on the ATM side. • 2 = Disable. VISM sends an alarm indication signal (AIS), blue alarm, or RAI to the line if an alarm occurs on the ATM side.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

Trunk conditioning consists of sending 0x7f or 0xff on the affected DS0s for T1 or E1 respectively. In addition, in the case of T1, the idle code pattern is transmitted for 2 to 5 seconds followed by the seized code pattern, as specified in the **cnfcascode** command.

This command is not allowed if endpoints or CCS channels are enabled on the line.

Examples

The following example shows that line 2 is configured with line conditioning if an AAL2 alarm is encountered:

```
cnflntrunkcond 2 1
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.

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Command	Description
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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cnfmgcgrpentry

To modify the call agent priority level of a call agent within a call agent redundancy group, use the **cnfmgcgrpentry** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfmgcgrpentry *mgc-group mgc-num mgc-preference*

Syntax Description

mgc-group	Call agent redundancy group number. It can be in the range from 1 to 8.
mgc-num	Call agent identification number. It can be in the range from 1 to 8.
mgc-preference	Call agent priority value. It can be in the range from 1 (highest) to 8 (lowest).

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the call agent redundancy group number 1, call agent number 2, is configured with a priority level of 4:

```
cnfmgcgrpentry 1 2 4
```

Related Commands

Command	Description
addmgcgrpentry	Configures call agents as part of an MGC redundancy group and assigns a priority value for a call agent.
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
cnfsrcppeer	Configures the SRCP parameters when SRCP is the selected protocol for communication between the VISM card and call agent.
cnfsrcppeergrpparam	Modifies the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group.
delmgcgrpentry	Deletes a call agent from a call agent redundancy group.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspmgcgrpparams	Displays all configured call agent redundancy group parameters.
dspmgcgrpprotocols	Displays all configured call agent redundancy group protocols.
dspmgcgrps	Displays all configured call agent redundancy groups.
dspsrcppeergrpparams	Displays the SRCP parameters for all call agent redundancy groups that have SRCP added.

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cnfmgcgrpparam

To modify a call agent redundancy group state change notification policy and priority level, use the **cnfmgcgrpparam** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfmgcgrpparam *mgc-group state-change-notify* |*mgc-pref*|

Syntax Description

mgc-group	Call agent redundancy group number. It can be in the range from 1 to 8.
state-change-notify	State change notification. Determines if messages, such as RSIPs, are sent to notify the call agent of a VISM card state change. It can be one of the following values: • 1 = Enable (Default) • 2 = Disable
mgc-pref	(Optional) Call agent priority value. It can be one of the following: • 0 = No gateway initiated requests or commands are sent. • In the range from 1 (highest) to 8 (lowest). (Default = 1)

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that call agent redundancy group number 1 is associated with the call agent and is assigned a priority level of 5:

```
cnfmgcgrpparam 1 2 5
```

Related Commands

Command	Description
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfmgcgrpentry	Modifies the call agent priority level of a call agent within a call agent redundancy group.
cnfsrcppeer	Configures the SRCP parameters when SRCP is the selected protocol for communication between the VISM card and call agent.
cnfsrcppeergrpparam	Modifies the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group.
delmgcgrpentry	Deletes a call agent from a call agent redundancy group.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspmgcgrpparams	Displays all configured call agent redundancy group parameters.
dspmgcgrpprotocols	Displays all configured call agent redundancy group protocols.

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Command	Description
dspmgcgrps	Displays all configured call agent redundancy groups.
dspsrcppeergrpparams	Displays the SRCP parameters for all call agent redundancy groups that have SRCP added.

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cnfmgcgrpprotocol

To configure a call agent redundancy group protocol for a previously configured redundancy group, use the **cnfmgcgrpprotocol** command in the VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC operating modes.

cnfmgcgrpprotocol *red-mgc-group protocol-num* |*quar-persist default-quar del-negated prov-resp resp-ack disc-proc-enable cancel-grace*|

Syntax Description

red-mgc-group	Call agent redundancy group number. It can be in the range from 1 to 8.
protocol-num	Protocol number. It can be one of the following values: • 1 = MGCP 0.1 • 2 = SGCP 1.1+ • 3 = SRCP 1.0.2 • 4 = SGCP 1.5 • 5 = MGCP 1.0 • In the range from 6 to 8—as displayed by the **dspmgcgrpprotocols** command.
quar-persist	(Optional) Sets the quarantine handling method for persistent events. It can be one of the following values: • 1 = Quarantine persistent events (Default) • 2 = Do not quarantine persistent events
default-quar	(Optional) Sets the default quarantine event handling method for each protocol. It can be one of the following values: • 1 = Step, process (Default for MGCP 1.0) • 2 = Step, discard (Default for MGCP 0.1, SGCP 1.1+, SRCP 1.0.2, and SGCP 1.5) • 3 = Loop, process • 4 = Loop, discard **Note** Step = one notification command is generated per notification request. Loop = multiple notification commands are generated per notification request.
del-negated	(Optional) • 1 = Delete events from the previous list which are not present in the current list. • 2 = Delete events from the previous list, only if the event is present in the current list with a hyphen (-) as the parameter.
prov-resp	(Optional) Enables or disables the sending of a provisional response. It can be one of the following values: 1 = On (Default for MGCP 1.0) 2 = Off (Default for MGCP 0.1, SGCP 1.1+, SRCP 1.0.2, and SGCP 1.5)

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resp-ack	(Optional) Enables or disables sending a response acknowledgment. It can be one of the following values: • 1 = On (Default for MGCP 1.0) • 2 = Off (Default for MGCP 0.1, SGCP 1.1+, SRCP 1.0.2, and SGCP 1.5)
disc-proc-enable	(Optional) Enables or disables the disconnect method, which indicates that the endpoint has become disconnected and is now trying to establish connectivity. It can be one of the following values: • 1 = On (Default for MGCP 1.0) • 2 = Off (Default for MGCP 0.1, SGCP 1.1+, SRCP 1.0.2, and SGCP 1.5)
cancel-grace	(Optional) Enables or disables VISM cancelling a previously issued graceful restart command. It can be one of the following values: • 1 = On (Default for MGCP 1.0) • 2 = Off (Default for MGCP 0.1, SGCP 1.1+, SRCP 1.0.2, and SGCP 1.5)

Command Modes

VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

Use this command to change the protocol for a redundancy group that has previously been assigned a protocol with the **addmgcgrpprotocol** command.

Examples

The following example shows that redundancy group number 7 is assigned the SRCP 1.0.2 protocol, and quarantines persistent events with the loop, process handling method. All optional arguments are enabled.

```
cnfmgcgrpprotocol 7 3 1 3 1 1 1 1 1
```

Related Commands

Command	Description
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfdisctimers	Specifies the wait delay times for the disconnected procedure, restart in progress command—initial, minimum, and maximum timer values.
cnfxgcppeer	Configures the UDP port number used to send gateway-initiated messages to the call agent.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspdisctimers	Displays the Restart in Progress command disconnect type method wait delay times.

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cnfmidcalltimers

To configure the midcall dual tone multifrequency (DTMF) feature partial and critical timers for a specified VISM card line, use the **cnfmidcalltimers** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfmidcalltimers *line-num dtmf-part-timer dtmf-crit-timer*

Syntax Description

line-num	Line number for which you want to configure midcall DTMF timers. It can be in the range from 1 to 8.
dtmf-part-timer	Partial digit timer for midcall DTMF digit reporting (defined in seconds). It can be in the range from 10 to 10000. (Default = 16)
dtmf-crit-timer	Critical digit timer for midcall DTMF digit reporting (defined in seconds). It can be in the range from 0 to 10000. (Default = 4)

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Use this command for CAS and non-CAS endpoints when you want to use midcall DTMF digit reporting.

When you use this command, the partial digit timer starts when the first digit is entered, and restarts when each new digit is entered until a digit map match or mismatch occurs.

When you use a digit map, the critical digit timer starts when the last digit is received—when no more digits are required for a digit map match. When the time expires, the digit map match is assumed to be complete. When you are not using a digit map, the critical digit timer starts immediately (and not restarted) and is cancelled as soon as a digit is entered.

Examples

The following example shows that the current VISM card line number 3 is configured with a 20-second partial digit timer and a 4-second critical digit timer for midcall DTMF digit reporting:

```
cnfmidcalltimers 3 20 4
```

Related Commands

Command	Description
dspmidcalltimers	Displays the configured partial and critical timer values for midcall DTMF digit reporting.

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cnfmusicthreshold

To configure the music on-hold threshold value for the current VISM card, use the **cnfmusicthreshold** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfmusicthreshold *music-thresh*

Syntax Description

music-thresh	Music on-hold threshold (defined in decibels). It can be in the range from –70 to –30.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

This command allows you to adjust the threshold level detected by DSPs to interpret TDM side silence or voice.

Examples

The following example shows that the current VISM card is configured with a –45-dB music on-hold threshold value:

```
cnfmusicthreshold -45
```

Related Commands

Command	Description
cnfds0musicthreshold	Configures the music on-hold threshold for a specified DS0.
cnflnmusicthreshold	Configures the music on-hold threshold for all DS0s on a specified line.
dspds0musicthreshold	Displays the music on-hold threshold value for a specified DS0.
dsplnmusicthreshold	Displays the music on-hold threshold values for the DS0s on a specified line.
dspmusicthreshold	Displays the music on-hold threshold values for the current VISM card.

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cnfnwcot

To configure VISM for a gateway-initiated network continuity test, use the **cnfnwcot** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfnwcot *co3test-enable*

Syntax Description

co3test-enable	Enables or disables the VISM-initiated CO3 network continuity test. It can be one of the following values: • 1 = On • 2 = Off (Default)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

This command configures VISM for gateway-initiated network continuity testing. When enabled, and after VISM receives the remote SDP information, VISM sends an Named Signaling Event (NSE) or AAL2 type 3 packet (CO3) towards the network. If the other gateway does not respond with a NSE/Type 3 packet (CO4), the connection is deleted. VISM interprets that the gateway initiated DLCX, with a reason code of “Network cont. failed,” is sent to the call agent.

Examples

The following example shows that VISM is configured for a gateway-initiated network continuity test:

```
cnfnwcot 1
```

Related Commands

Command	Description
cnfco4timer	Configures the bearer continuity test CO4 timer value.
dspco4timer	Displays the bearer continuity test CO4 timer value.
dspnwcot	Displays the status—enabled or disabled—of the gateway initiated network continuity test configuration for VISM.
dspvismparam	Displays the current VISM card configuration.

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cnfpncon

To set priority routing for a specified connection, use the **cnfpncon** command in the switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, and switched ATM AAL1 SVC operating modes.

cnfpncon *lcn route-priority*

Syntax Description

lcn	The logical channel number. It can be in the range from 131 to 510.
route-priority	Route priority. It can be in the range from 1 to 15 (lowest). (Default = 8)

Command Modes

Switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, and switched ATM AAL1 SVC

Usage Guidelines

The Private Network-to-Network Interface (PNNI) routing priority feature requires you to use a PXM1E or PXM45 in your MGX 8000 Series switch chassis.

Examples

The following example shows that the priority routing for connection 145 is set to the lowest priority:

```
cnfpncon 145 15
```

Related Commands

Command	Description
dspcon	Displays the parameters for a specified channel.

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cnfprofelemvbd

To configure the voiceband data (VBD) profile element for a profile, use the **cnfprofelemvbd** command in the switched AAL2 PVC operating mode.

cnfprofelemvbd *profile-type profile-num vbd-codec-type vbd-pkt-period*

Syntax Description

profile-type	The profile type to be used for the CID. It can be one of the following values: • 1 = International Telecommunication Union (ITU) I.366.2 • 3 = Custom
profile-num	Number of the profile. It can be one of the following values: • 1 = ITU profile type • 2 = ITU profile type • 3 = ITU profile type • 7 = ITU profile type • 8 = ITU profile type • 12 = ITU profile type • 100 = custom profile type • 101 = custom profile type • 110 = custom profile type • 200 = custom profile type
vbd-codec-type	The type of coding/decoding to be performed on the data stream. It can be one of the following values: • 1 = G.711u • 2 = G.711a • 3 = G.726-32k • 6 = Clear channel (VAD must be off) • 7 = G.726-16k • 8 = G.726-24k • 9 = G.726-40k • 11 = G.723.1-H • 13 = G.723.1-L
vbd-pkt-period	Packetization period (defined in milliseconds). It can be one of the following values: • 5 • 10 • 30

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Command Modes Switched AAL2 PVC

Usage Guidelines Use the **dspaal2profile** command to identify valid combinations of codec type, packetization period, and silence insertion descriptor.

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

Examples The following example shows that the ITU profile type, profile number 1 is configured with G.711a codec type and a 5-ms packetization period:

```
cnfprofelemvbd 1 1 2 5
```

Related Commands

Command	Description
cnfprofelemvoice	Configures the voice profile element for a profile.
dspaal2profile	Displays AAL2 profile type and profile number data.
dspprofparams	Displays the profile elements and the preferences for all profiles.

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cnfprofelemvoice

To configure the profile voice element, use the **cnfprofelemvoice** command in the switched AAL2 PVC operating mode.

cnfprofelemvoice *profile-type profile-num codec-type pvoice-pkt-period sid*

Syntax Description

profile-type	The profile type to be used for the CID. It can be one of the following values: • 1 = International Telecommunication Union (ITU) I.366.2 • 3 = Custom
profile-num	Number of the profile. It can be one of the following values: • 1 = ITU profile type • 2 = ITU profile type • 3 = ITU profile type • 7 = ITU profile type • 8 = ITU profile type • 12 = ITU profile type • 100 = custom profile type • 101 = custom profile type • 110 = custom profile type • 200 = custom profile type
codec-type	The type of coding/decoding to be performed on the data stream. It can be one of the following values: • 1 = G.711u • 2 = G.711a • 3 = G.726-32k • 4 = G.729a • 5 = G.729ab • 6 = Clear channel (VAD must be off) • 7 = G.726-16k • 8 = G.726-24k • 9 = G.726-40k • 11 = G.723.1-H • 12 = G.723.1a-H • 13 = G.723.1-L • 14 = G.723.1a-L

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pvoice-pkt-period	Packetization period (defined in milliseconds). It can be one of the following values: • 5 • 10 • 20 • 30 • 40 • 60
sid	Silence insertion descriptor (SID). It can be one of the following values: 1 = VAD off 2 = VAD on 3= SID generic 4 = SID 729 5 = SID 723

Command Modes

Switched AAL2 PVC

Usage Guidelines

Use the **dspaal2profile** command to identify valid combinations of codec type, packetization period, and SID.

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

Examples

The following example shows that the ITU profile type on profile number 1 is configured with the G.711a codec type, a packetization period of 5 ms, and VAD enabled:

```
cnfprofelemvoice 1 1 2 5 2
```

Related Commands

Command	Description
cnfprofelemvbd	Configures the VBD profile element for a profile.
dspaal2profile	Displays information about a specified AAL2 profile type and profile number.
dspprofparams	Displays the profile elements and preferences for all profiles.

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cnfprofneg

To configure the profile list priority order, use the **cnfprofneg** command in the switched AAL2 PVC operating mode.

cnfprofneg *codec-priority*

Syntax Description

codec-priority	The codec list priority scheme. It can be one of the following values: • 1 = Local connection options (LCO) list, remote Session Descriptor Protocol (SDP) data list, local MIB • 2 = LCO list, local MIB, remote SDP data list • 3 = Remote SDP data list, LCO list, local MIB • 4 = Remote SDP data list, local MIB, LCO list • 5 = Local MIB, LCO list, remote SDP data list • 6 = Local MIB, remote SDP data list, LCO list

Command Modes

Switched AAL2 PVC

Usage Guidelines

This command determines which list to use for determining the relative profile preferences.

Examples

The following example shows that the codec list priority configuration uses the LCO list first, the remote SDP data list second, and the local MIB last:

```
cnfprofneg 1
```

Related Commands

Command	Description
dspvismparam	Displays the current VISM card configuration.

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cnfprofparams

To configure a profile preference, use the **cnfprofparams** command in the switched AAL2 PVC and AAL2 trunking operating modes.

cnfprofparams *profile-type profile-num profile-pref*

Syntax Description

profile-type	The profile type to be used for the CID. It can be one of the following values: • 1 = International Telecommunication Union (ITU) I.366.2 • 3 = Custom
profile-num	Number of the profile. It can be one of the following values: • 1 = ITU profile type • 2 = ITU profile type • 3 = ITU profile type • 7 = ITU profile type • 8 = ITU profile type • 12 = ITU profile type • 100 = custom profile types • 101 = custom profile types • 110 = custom profile types • 200 = custom profile types
profile-pref	Profile preference. It can be one of the following values: • 0 = No preference; exclude the profile from xGCP profile negotiation • In the range from 1 (highest preference; default) to 10 (lowest preference)

Command Modes

Switched AAL2 PVC and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the ITU profile type, profile number 1 is configured with the midrange preference level of 4:

```
cnfprofparams 1 1 4
```

Related Commands

Command	Description
dspprofparams	Displays the profile elements and preferences for all profiles.

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cnfrsvp

To configure Resource Reservation Protocol (RSVP) for a specified connection, use the **cnfrsvp** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

cnfrsvp *lcn rsvp-enable*

Syntax Description

lcn	The logical channel number. It can be in the range from 131 to 510.
rsvp-enable	Enables or disables RSVP. It can be one of the following values: • 1 = On • 2 = Off

Command Modes

VoIP switching/trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that RSVP is enabled for LCN 146:

```
cnfrsvp 146 1
```

Related Commands

Command	Description
cnfrsvprefreshmiss	Configures the number of times VISM waits for a missed RSVP minimum refresh message for a specified connection.
dsprsvpif	Displays the RSVP status of a specified connection.
dsprsvpreq	Displays the data associated with a specified RSVP request.
dsprsvpreqs	Displays all RSVP-known requests on the current VISM card.
dsprsvpresv	Displays all data associated with an RSVP bandwidth reservation.
dsprsvpresvs	Displays all incoming RSVP-known reservations on the current VISM card.
dsprsvpsenders	Displays all data associated with a specified RSVP path state.

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cnfrsvprefreshmiss

To configure the number of times VISM waits for a missed Resource Reservation Protocol (RSVP) minimum refresh message—a path or reservation message—(this is in addition to the time configured for minimum refreshes) for a specified connection, use the **cnfrsvprefreshmiss** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

cnfrsvprefreshmiss *lcn refresh-miss-num*

Syntax Description

lcn	The logical channel number. It can be in the range from 131 to 510.
refresh-miss-num	The successive number of refresh message wait times that VISM allows before deleting the soft-state for the connection. It can be in the range from 1 to 8. (Default = 4)

Command Modes

VoIP switching/trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

VISM expects refresh messages at regular intervals, which are passed to VISM from the remote packet module (RPM). If no refresh messages are sent to the VISM, VISM deletes the soft-state for the corresponding connection. However, you can use this command to extend the wait time by configuring the number of wait times VISM allows before tearing down a connection.

Examples

The following example shows that LCN 142 is configured to wait for 7 refresh time frames before allowing a connection to be torn down:

```
cnfrsvprefreshmiss 142 7
```

Related Commands

Command	Description
cnfrsvp	Configures RSVP for a specified connection.
dsprsvpif	Displays the RSVP status of a specified connection.
dsprsvpreq	Displays the data associated with a specified RSVP request.
dsprsvpreqs	Displays all RSVP-known requests on the current VISM card.
dsprsvpresv	Displays all data associated with an RSVP bandwidth reservation.
dsprsvpresvs	Displays all incoming RSVP-known reservations on the current VISM card.
dsprsvpsenders	Displays all data associated with a specified RSVP path state.

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cnfrtcprepint

To configure the Real Time Control Protocol (RTCP) report interval for a VISM card, use the **cnfrtcprepint** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

cnfrtcprepint *report-interval* |*report-mult*|

Syntax Description

report-interval	Interval (defined in milliseconds) between RTCP report packets sent to peer VoIP endpoints. It can be in the range from 500 to 1500, in increments of 10.
report-mult	(Optional) Interval multiplier for the *report-interval* argument value. Use this argument if you need to configure the report-interval argument value higher than the maximum (1500 ms). It can be in the range from 1 to 10. (Default = 3) **Note** If *report-interval* = 1500 and *report-mult* = 3, then 1000 * 3 = 4500. So, the interval time between RTCP report packets sent to peer VoIP endpoints is configured as 4500 ms.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the RTCP report packet interval is configured at 1000 ms:

```
cnfrtcprepint 1000
```

Related Commands

Command	Description
dspvismparam	Displays current VISM card configuration.

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cnfrtpcon

To modify an existing static Real-Time Transport Protocol (RTP) VoIP trunking connection, use the **cnfrtpcon** command in the VoIP switching/trunking operating mode.

cnfrtpcon *conn-num codec-type conn-mode |vt-pkt-period bearer-prec bearer-tos vad-enable vad-timer ecan-enable cas-trans dtmf-trans idle-code-sup|*

Syntax Description

conn-num	Connection identification number. It can be in the range from 1 to 248.
codec-type	The type of coding/decoding to be performed on the data stream. It can be one of the following values: • 1 = G.711u • 2 = G.711a • 3 = G.726-32K • 4 = G.729a • 5 = G.729ab • 6 = Clear channel (VAD must be off) • 7 = G.726-16k • 8 = G.726-24k • 9 = G.726-40k • 11 = G.723.1-H • 12 = G.723.1a-H • 13 = G.723.1-L • 14 = G.723.1a-L
conn-mode	(Optional) Connection mode. It can be one of the following values: • 1 = VISM sends packets • 2 = VISM receives packets • 3 = VISM sends and receives packets (Default) • 4 = Inactive; VISM does not send or receive packets
vt-pkt-period	(Optional) Packetization period (defined in milliseconds). It can be one of the following values: • 10 • 20 • 30 • 40 • 60
bearer-prec	(Optional) Bearer precedence. It can be in the range from 0 to 7. (Default = 5)

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bearer-tos	(Optional) Bearer type of service (ToS). It can be one of the following values: • 0 (Default) • 1 • 2 • 4 • 8
vad-enable	(Optional) Enables or disables voice activity detection (VAD). It can be one of the following values: • 1 = On • 2 = Off (Default)
vad-timer	(Optional) The VAD holdover timer (defined in milliseconds) in the range from 250 to 65535.
ecan-enable	(Optional) Enables or disables echo cancellation (ECAN). It can be one of the following values: • 1 = On (Default) • 2 = Off
cas-trans	(Optional) Enables or disables CAS signaling transportation. It can be one of the following values: • 1 = On (Default) • 2 = Off
dtmf-trans	(Optional) Enables or disables DTMF tone transportation. It can be one of the following values: • 1 = On (Default) • 2 = Off **Note** The *dtmf-trans* argument value must be set to 1 (on) when the *codec-type* is configured for codecs other than G.711 and G.726.
idle-code-sup	(Optional) Enables or disables idle code suppression for the CID. It can be one of the following values: • 1 = On • 2 = Off (Default)

Command Modes

VoIP switching/trunking

Usage Guidelines

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

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Examples

The following example shows that the RTP trunking connection 26 is configured (modified) with G.726/32 codec type. VISM is also configured to send and receive packets and has a 20-ms packetization period, a bearer precedence of 3, a bearer ToS of 1, with VAD enabled, and a 400-ms VAD holdover time. Also, ECAN, CAS, DTMF tone transport, idle code suppression for CID, and redundancy are enabled:

```
cnfrtpcon 26 3 3 20 3 1 1 400 1 1 1 1 1
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpconnstat	Displays the RTP connection statistics for a specified endpoint.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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cnfrtprxtimer

To enable or disable the receipt of Real-Time Transport Protocol (RTP) messages on a VISM card, use the **cnfrtprxtimer** command in the VoIP switching/trunking operating mode.

cnfrtprxtimer *rx-timer*

Syntax Description

rx-timer	Enables or disables the receipt of RTP messages. It can be one of the following values: • 1 = Disable • 2 = Enable

Command Modes

VoIP switching/trunking

Usage Guidelines

If you enable the receipt of RTP messages (*rx-timer* = 2) and no RTP messages are received on a particular connection for 5 seconds, the gateway initiates a connection deletion. You cannot configure the 5-second time limit.

Examples

The following example shows that the receipt of RTP messages is enabled for the current VISM card:

```
cnfrtprxtimer 2
```

Related Commands

There are no related commands.

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cnfrudptrunkrmtip

To modify the remote IP address of VISM used in the ISDN PRI backhaul Reliable User Datagram Protocol (RUDP) trunk for a specified session, use the **cnfrudptrunkrmtip** command in the VoIP switching/trunking operating mode.

cnfrudptrunkrmtip *session-num remote-ip-addr*

Syntax Description

session-num	ISDN PRI backhaul RUDP session. It can be in the range from 1 to 64.
remote-ip-addr	IP address of the remote VISM card, in dotted decimal format (nnn.nnn.nnn.nnn).

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the remote IP address, 209.165.200.224, of VISM used in RUDP is modified to session number 22:

```
cnfrudptrunkrmtip 22 209.165.200.224
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.

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Command	Description
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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cnfsesack

To configure the timeout period before sending an acknowledgment, and the maximum number of acknowledgments that can be accumulated, use the **cnfsesack** command in the VoIP switching/trunking operating mode.

cnfsesack *session-num ack-timeout max-acks*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.
ack-timeout	Timeout period (defined in milliseconds) to send an acknowledgment. It can be in the range from 100 to 65535.
max-acks	Maximum number of acknowledgments that can be accumulated before sending an acknowledgment. It can be in the range from 0 to 255.

Command Modes

VoIP switching/trunking

Usage Guidelines

Use this command for a previously added PRI backhaul session.

Examples

The following example shows that session 2 is configured with an acknowledgment period of 500 ms and the maximum number of accumulated acknowledgments can be 10:

```
cnfsesack 2 500 10
```

Related Commands

Command	Description
cnfsesmaxreset	Configures the maximum number of resets that a VISM card performs before a connection is reset.
cnfsesmaxseg	Configures the maximum segment size, in octets, that can be received by a VISM card after sending a synchronize message.
cnfsesmaxwindow	Configures the maximum number of segments (window) that can be sent before receiving an acknowledgment.
cnfsesnullsegtmout	Configures the idle time before sending a null segment.
cnfsesoutofseq	Configures the maximum number of out-of-sequence packets that can be accumulated before sending an EACK packet.
cnfsesport	Configures the port numbers of a previously added PRI backhaul session.
cnfsesretrans	Configures the timeout period for unacknowledged packets and the number of retransmissions.
cnfsesstatetmout	Configures the number of milliseconds that VISM waits for a transfer state before executing an auto reset.
cnfsessyncatmps	Configures the maximum number of call agent synchronization attempts.

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cnfsesmaxreset

To configure the maximum number of resets that a VISM card performs before a connection is reset, use the **cnfsesmaxreset** command in the VoIP switching/trunking operating mode.

cnfsesmaxreset *session-num max-resets*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.
max-resets	Maximum number of resets that the VISM card performs before a connection is reset. It can be in the range from 0 to 255. (Default = 3)

Command Modes

VoIP switching/trunking

Usage Guidelines

Use this command for a previously added PRI backhaul session.

Examples

The following example shows that 25 is the maximum number of resets configured for session number 2:

```
cnfsesmaxreset 2 25
```

Related Commands

Command	Description
cnfsesack	Configures the timeout period before sending an acknowledgment, and the maximum number of acknowledgments that can be accumulated.
cnfsesmaxseg	Configures the maximum segment size, in octets, that can be received by a VISM card after sending a synchronize message.
cnfsesmaxwindow	Configures the maximum number of segments (window) that can be sent before receiving an acknowledgment.
cnfsesnullsegtmout	Configures the idle time before sending a null segment.
cnfsesoutofseq	Configures the maximum number of out-of-sequence packets that can be accumulated before sending an EACK packet.
cnfsesport	Configures the port numbers of a previously added PRI backhaul session.
cnfsesretrans	Configures the timeout period for unacknowledged packets and the number of retransmissions.
cnfsesstatetmout	Configures the number of milliseconds that VISM waits for a transfer state before executing an auto reset.
cnfsessyncatmps	Configures the maximum number of call agent synchronization attempts.

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cnfsesmaxseg

To configure the maximum segment size, in octets, that can be received by a VISM card after sending a synchronize message, use the **cnfsesmaxseg** command in the VoIP switching/trunking operating mode.

cnfsesmaxseg *session-num seg-size*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.
seg-size	Maximum segment size, in octets, that can be received by a VISM card after sending a synchronize message. It can be in the range from 30 to 65535.

Command Modes

VoIP switching/trunking

Usage Guidelines

Use this command for a previously added PRI backhaul session.

Examples

The following example shows that a maximum 1000-octet segment size is configured for session number 2:

```
cnfsesmaxseg 2 1000
```

Related Commands

Command	Description
cnfsesack	Configures the timeout period before sending an acknowledgment, and the maximum number of acknowledgments that can be accumulated.
cnfsesmaxreset	Configures the maximum number of resets that a VISM card performs before a connection is reset.
cnfsesmaxwindow	Configures the maximum number of segments (window) that can be sent before receiving an acknowledgment.
cnfsesnullsegtmout	Configures the idle time before sending a null segment.
cnfsesoutofseq	Configures the maximum number of out-of-sequence packets that can be accumulated before sending an EACK packet.
cnfsesport	Configures the port numbers of a previously added PRI backhaul session.
cnfsesretrans	Configures the timeout period for unacknowledged packets and the number of retransmissions.
cnfsesstatetmout	Configures the number of milliseconds that VISM waits for a transfer state before executing an auto reset.
cnfsessyncatmps	Configures the maximum number of call agent synchronization attempts.

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cnfsesmaxwindow

To configure the maximum number of segments (window) that can be sent before receiving an acknowledgment, use the **cnfsesmaxwindow** command in the VoIP switching/trunking operating mode.

cnfsesmaxwindow *session-num window-size*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.
window-size	Maximum number of segments that can be sent before receiving an acknowledgment. It can be in the range from 1 to 64.

Command Modes

VoIP switching/trunking

Usage Guidelines

Use this command for a previously added PRI backhaul session.

Examples

The following example shows that a maximum number of 44 segments can be sent for session number 2 before receiving an acknowledgment:

```
cnfsesmaxwindow 2 44
```

Related Commands

Command	Description
cnfsesack	Configures the timeout period before sending an acknowledgment, and the maximum number of acknowledgments that can be accumulated.
cnfsesmaxreset	Configures the maximum number of resets that a VISM card performs before a connection is reset.
cnfsesmaxseg	Configures the maximum segment size, in octets, that can be received by a VISM card after sending a synchronize message.
cnfsesnullsegtmout	Configures the idle time before sending a null segment.
cnfsesoutofseq	Configures the maximum number of out-of-sequence packets that can be accumulated before sending an EACK packet.
cnfsesport	Configures the port numbers of a previously added PRI backhaul session.
cnfsesretrans	Configures the timeout period for unacknowledged packets and the number of retransmissions.
cnfsesstatetmout	Configures the number of milliseconds that VISM waits for a transfer state before executing an auto reset.
cnfsessyncatmps	Configures the maximum number of call agent synchronization attempts.

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cnfsesnullsegtmout

To configure the timeout period, in milliseconds, of idle time before a null segment is sent, use the **cnfsesnullsegtmout** command in the VoIP switching/trunking operating mode.

cnfsesnullsegtmout *session-num null-seg-tout*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.
null-seg-tout	Timeout period (defined in milliseconds) of idle time before a null segment is sent. It can be in the range from 0 to 65535.

Command Modes

VoIP switching/trunking

Usage Guidelines

Use this command for a previously added PRI backhaul session.

Examples

The following example shows that the idle timeout period is configured at 1000 ms for session number 2:

```
cnfsesnullsegtmout 2 1000
```

Related Commands

Command	Description
cnfsesack	Configures the timeout period before sending an acknowledgment, and the maximum number of acknowledgments that can be accumulated.
cnfsesmaxreset	Configures the maximum number of resets that a VISM card performs before a connection is reset.
cnfsesmaxseg	Configures the maximum segment size, in octets, that can be received by a VISM card after sending a synchronize message.
cnfsesoutofseq	Configures the maximum number of out-of-sequence packets that can be accumulated before sending an EACK packet.
cnfsesport	Configures the port numbers of a previously added PRI backhaul session.
cnfsesretrans	Configures the timeout period for unacknowledged packets and the number of retransmissions.
cnfsesstatetmout	Configures the number of milliseconds that VISM waits for a transfer state before executing an auto reset.
cnfsessyncatmps	Configures the maximum number of call agent synchronization attempts.

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cnfsesoutofseq

To configure the maximum number of out-of-sequence packets that can be accumulated before sending an EACK packet, use the **cnfsesoutofseq** command in the VoIP switching/trunking operating mode.

cnfsesoutofseq *session-num max-seq-pkts*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.
max-seq-pkts	The maximum number of out-of-sequence packets that can be accumulated before an EACK packet is transmitted. It can be in the range from 0 to 255. **Note** If you specify 0, a DACK message is sent immediately upon receiving an out-of-sequence packet.

Command Modes

VoIP switching/trunking

Usage Guidelines

Use this command for a previously added PRI backhaul session.

Examples

The following example shows that a maximum of 10 out-of-sequence packets can be accumulated before an EACK packet is transmitted for session number 2:

```
cnfsesoutofseq 2 10
```

Related Commands

Command	Description
cnfsesack	Configures the timeout period before sending an acknowledgment, and the maximum number of acknowledgments that can be accumulated.
cnfsesmaxreset	Configures the maximum number of resets that a VISM card performs before a connection is reset.
cnfsesmaxseg	Configures the maximum segment size, in octets, that can be received by a VISM card after sending a synchronize message.
cnfsesnullsegtmout	Configures the idle time before sending a null segment.
cnfsesport	Configures the port numbers of a previously added PRI backhaul session.
cnfsesretrans	Configures the timeout period for unacknowledged packets and the number of retransmissions.
cnfsesstatetmout	Configures the number of milliseconds that VISM waits for a transfer state before executing an auto reset.
cnfssyncatmps	Configures the maximum number of call agent synchronization attempts.

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cnfsesport

To configure the port numbers of a previously added PRI backhaul session, use the **cnfsesport** command in the VoIP switching/trunking operating mode.

cnfsesport *session-num local-port-num remote-port-num*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.
local-port-num	Local port number. The VISM port number used for the session. It can be in the range from 1124 to 65535.
remote-port-num	Remote port number. The call agent port number used for the session. It can be in the range from 1124 to 65535.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that session number 4 is configured with local (VISM) port number 1200 and remote (call agent) port number 1204:

```
cnfsesport 4 1200 1204
```

Related Commands

Command	Description
cnfsesack	Configures the timeout period before sending an acknowledgment, and the maximum number of acknowledgments that can be accumulated.
cnfsesmaxreset	Configures the maximum number of resets that a VISM card performs before a connection is reset.
cnfsesmaxseg	Configures the maximum segment size, in octets, that can be received by a VISM card after sending a synchronize message.
cnfsesnullsegtmout	Configures the idle time before sending a null segment.
cnfsesoutofseq	Configures the maximum number of out-of-sequence packets that can be accumulated before sending an EACK packet.
cnfsesretrans	Configures the timeout period for unacknowledged packets and the number of retransmissions.
cnfsesstatetmout	Configures the number of milliseconds that VISM waits for a transfer state before executing an auto reset.
cnfsessyncatmps	Configures the maximum number of call agent synchronization attempts.

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cnfsesretrans

To configure the timeout period for unacknowledged packets and number of retransmissions, use the **cnfsesretrans** command in the VoIP switching/trunking operating mode.

cnfsesretrans *session-num unack-timeout max-ses-retrans*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.
unack-timeout	Timeout period (defined in milliseconds) to send an acknowledgment. It can be in the range from 100 to 65535. (Default = 600)
max-ses-retrans	The maximum number of retransmissions. It can be in the range from 0 to 255. (Default = 3)

Command Modes

VoIP switching/trunking

Usage Guidelines

Use this command for a previously added PRI backhaul session.

When the maximum retransmissions have been made and there is still no acknowledgment, the session is considered failed.

Examples

The following example shows that session number 2 is configured with a timeout period for unacknowledged packets of 1000 ms and a maximum number of retransmission attempts of 20:

```
cnfsesretrans 2 1000 20
```

Related Commands

Command	Description
cnfsesack	Configures the timeout period before sending an acknowledgment, and the maximum number of acknowledgments that can be accumulated.
cnfsesmaxreset	Configures the maximum number of resets that a VISM card performs before a connection is reset.
cnfsesmaxseg	Configures the maximum segment size, in octets, that can be received by a VISM card after sending a synchronize message.
cnfsesnullsegtmout	Configures the idle time before sending a null segment.
cnfsesoutofseq	Configures the maximum number of out-of-sequence packets that can be accumulated before sending an EACK packet.
cnfsesport	Configures the port numbers of a previously added PRI backhaul session.
cnfsesstatetmout	Configures the number of milliseconds that VISM waits for a transfer state before executing an auto reset.
cnfsessyncatmps	Configures the maximum number of call agent synchronization attempts.

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cnfsesstatetmout

To configure the number of milliseconds that VISM waits for a transfer state before executing an auto reset, use the **cnfsesstatetmout** command in the VoIP switching/trunking operating mode.

cnfsesstatetmout *session-num tstate-tout*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.
tstate-tout	Transfer state timeout. The maximum number of milliseconds that VISM waits for a transfer state before executing an auto reset. It can be in the range from 0 to 65535. (Default = 2000)

Command Modes

VoIP switching/trunking

Usage Guidelines

Use this command for a previously added PRI backhaul session.

Examples

The following example shows that session number 2 is configured with a 500-ms transfer state timeout:

```
cnfsesstatetmout 2 500
```

Related Commands

Command	Description
cnfsesack	Configures the timeout period before sending an acknowledgment, and the maximum number of acknowledgments that can be accumulated.
cnfsesmaxreset	Configures the maximum number of resets that a VISM card performs before a connection is reset.
cnfsesmaxseg	Configures the maximum segment size, in octets, that can be received by a VISM card after sending a synchronize message.
cnfsesoutofseq	Configures the maximum number of out-of-sequence packets that can be accumulated before sending an EACK packet.
cnfsesport	Configures the port numbers of a previously added PRI backhaul session.
cnfsesretrans	Configures the timeout period for unacknowledged packets and number of retransmissions.
cnfsessyncatmps	Configures the maximum number of call agent synchronization attempts.

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cnfsessyncatmps

To configure the maximum number of attempts to synchronize with the call agent, use the **cnfsessyncatmps** command in the VoIP switching/trunking operating mode.

cnfsessyncatmps *session-num max-sync-attempts*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.
max-sync-attempts	The maximum number of attempts to synchronize with the call agent. It can be in the range from 1 to 32.

Command Modes

VoIP switching/trunking

Usage Guidelines

Use this command for a previously added PRI backhaul session.

Examples

The following example shows that session number 2 is configured with a maximum of 10 synchronization attempts with the call agent:

```
cnfsessyncatmps 2 10
```

Related Commands

Command	Description
cnfsesack	Configures the timeout period before sending an acknowledgment, and the maximum number of acknowledgments that can be accumulated.
cnfsesmaxreset	Configures the maximum number of resets that a VISM card performs before a connection is reset.
cnfsesmaxseg	Configures the maximum segment size, in octets, that can be received by a VISM card after sending a synchronize message.
cnfsesoutofseq	Configures the maximum number of out-of-sequence packets that can be accumulated before sending an EACK packet.
cnfsesport	Configures the port numbers of a previously added PRI backhaul session.
cnfsesretrans	Configures the timeout period for unacknowledged packets and number of retransmissions.
cnfsesstatetmout	Configures the number of milliseconds that VISM waits for a transfer state before executing an auto reset.

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cnfsrcppeer

To configure the port for the call agent configured with the Simple Resource Control Protocol (SRCP)—when SRCP is the selected protocol for communication between the VISM card and call agent, use the **cnfsrcppeer** command in the VoIP switching/trunking operating mode.

cnfsrcppeer *peer-num udp-port-num*

Syntax Description

peer-num	Peer (call agent) identification number. It can be a value from 1 to 8.
udp-port-num	User Datagram Protocol (UDP) port number. It can be in the range from 1025 to 65535.

Command Modes

VoIP switching/trunking

Usage Guidelines

If you do not use this command, the default MGCP/SGCP port number, 2428, is used for the *upd-port-num* argument value.

Examples

The following example shows that peer identification number 2 is configured with UDP port number 1160:

```
cnfsrcppeer 2 1160
```

Related Commands

Command	Description
addmgcgrpentry	Configures call agents as part of an MGC redundancy group and assigns a priority value for a call agent.
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfmgcgrpentry	Modifies the call agent priority level of a call agent within a call agent redundancy group.
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
cnfsrcppeergrpparam	Modifies the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group.
delmgcgrpentry	Deletes a call agent from a call agent redundancy group.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspmgcgrpparams	Displays all configured call agent redundancy group parameters.
dspmgcgrpprotocols	Displays all configured call agent redundancy group protocols.
dspmgcgrps	Displays all configured call agent redundancy groups.
dspsrcppeergrpparams	Displays the SRCP parameters for all call agent redundancy groups that have SRCP added.

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cnfsrcppeergrpparam

To modify the Simple Resource Control Protocol (SRCP) heartbeat interval and maximum User Datagram Protocol (UDP) size for a specified call agent redundancy group, use the **cnfsrcppeergrpparam** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfsrcppeergrpparam *red-mgc-group hbeat-int max-udp-size*

Syntax Description

red-mgc-group	Call agent redundancy group number. It can be in the range from 1 to 8.
hbeat-int	Interval between heartbeats (defined in milliseconds). It can be one of the following values: • 0 • In the range from 100 to 65535
max-udp-size	Maximum allowable UDP size. It can be in the range from 4095 to 65535.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that call agent redundancy group number 3 is configured with a 250-ms SRCP heartbeat interval and 50000-byte maximum UDP size:

```
cnfsrcppeergrpparam 3 250 50000
```

Related Commands

Command	Description
addmgcgrpentry	Configures call agents as part of an MGC redundancy group and assigns a priority value for a call agent.
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfmgcgrpentry	Modifies the call agent priority level of a call agent within a call agent redundancy group.
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
cnfsrcppeer	Configures the SRCP parameters when SRCP is the selected protocol for communication between the VISM card and call agent.
delmgcgrpentry	Deletes a call agent from a call agent redundancy group.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspmgcgrpparams	Displays all configured call agent redundancy group parameters.
dspmgcgrpprotocols	Displays all configured call agent redundancy group protocols.

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Command	Description
dspmgcgrps	Displays all configured call agent redundancy groups.
dspsrcppeergrpparams	Displays the SRCP parameters for all call agent redundancy groups that have SRCP added.

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cnfsrcpretry

To configure the VISM card level Simple Resource Control Protocol (SRCP) retry count, minimum timeout, and maximum timeout, use the **cnfsrcpretry** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfsrcpretry *srcp-min-tout max-srcp-retries* |*srcp-max-tout*|

Syntax Description

srcp-min-tout	Minimum SRCP timeout (defined in milliseconds). It can be in the range from 1 to 10000. (Default = 500)
max-srcp-retries	Maximum number of SRCP retries. It can be in the range from 0 to 10. (Default = 3).
srcp-max-tout	(Optional) Maximum SRCP timeout (defined in milliseconds). It can be in the range from 1 to 10000. (Default = 500)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

If you assign a value to the optional *srcp-max-tout* argument, VISM exponentially increases the timeout value between the minimum and maximum timeouts. If you do not assign a maximum timeout, the *srcp-max-tout* argument value is set equal to the *srcp-min-tout* argument value, which disables the exponential back off.

Examples

The following example shows that the current VISM card is configured with a 100-ms minimum SRCP timeout period, a maximum of 5 SRCP retry attempts, and 1000-ms maximum SRCP timeout period:

```
cnfsrcpretry 100 5 1000
```

Related Commands

Command	Description
dspsrcpretry	Displays the VISM card level SRCP retry parameters—retry count, minimum timeout, and maximum timeout.

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cnft38fxlco

To configure the fax handling instructions for a specified line, use the **cnft38fxlco** command in the VoIP switching/trunking operating mode.

cnft38fxlco *line-num fx-lco*

Syntax Description

line-num	Line number of the channel, in the range from 1 to 8.
fx-lco	Local connection option fax preamble response. It can be one of the following values: • 1 = VISM controlled T.38, then fax pass through. Upon detecting a fax preamble, VISM first attempts to complete a fax relay on the connection. If fax relay is unsuccessful due to a lack of local resources, T.38 connection admission control (CAC) failure, or the remote side did not acknowledge the 200 Named Signaling Event (NSE), VISM follows the procedure for fax passthrough. If fax relay is successful, the connection is returned to voice mode when the fax end of transfer occurs. • 2 = VISM controlled T.38 only. Upon detecting a fax preamble, VISM attempts to complete a fax relay on the connection. If fax relay is unsuccessful, the connection is returned to voice mode. If the fax relay is successful, the connection is returned to voice mode when the fax end of transfer occurs. • 3 = Passthrough, then VISM controlled T.38. Upon detecting a fax preamble, VISM first attempts the procedure for fax passthrough. If fax passthrough is unsuccessful due to a lack of local resources or an upspeed CAC failure, VISM attempts the fax relay procedure. If both fax passthrough and fax relay fail, the connection is returned to voice mode. If either fax passthrough or fax relay are successful, the connection is returned to voice mode when the fax end of transfer occurs. • 4 = Passthrough only. Upon detecting a fax preamble, VISM attempts the fax passthrough procedure. • 5 = Off.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the fax preamble response configured for line number 4 is first the fax passthrough and then VISM controlled T.38:

```
cnft38fxlco 4 3
```


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Related Commands

Command	Description
cnfcodectmpl	Assigns a codec template to an entire VISM card.
cnft38nsetimeout	Configures a specified line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
cnft38params	Configures the T.38 fax transfer parameters for a specified line.
dspcodectmpls	Displays all entries in the codec template table.
dspt38fxlco	Displays the fax handling instructions configured for a specified line.
dspt38fxlcos	Displays the fax handling instructions for all lines on the current VISM card.
dspt38nsetimeout	Displays a specified configured line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38nsetimeouts	Displays all configured lines with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38params	Displays the T.38 fax transfer parameters for a specified line.

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cnft38nsetimeout

To configure a specified line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode, use the **cnft38nsetimeout** command in the VoIP switching/trunking operating mode.

cnft38nsetimeout *line-num nse-ack-timer*

Syntax Description

line-num	Line number of the channel, in the range from 1 to 8.
nse-ack-timer	Named Signaling Event (NSE) acknowledgment timeout value (defined in milliseconds). It can be in the range from 250 to 10000, in increments of 250.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that line number 2 is configured with an NSE acknowledgment timeout value of 600 ms:

```
cnft38nsetimeout 2 600
```

Related Commands

Command	Description
cnfcodectmpl	Assigns a codec template to an entire VISM card.
cnft38fxlco	Configures the fax handling instructions for a specified line.
cnft38params	Configures the T.38 fax transfer parameters for a specified line.
dspcodectmpls	Displays all entries in the codec template table.
dspt38fxlco	Displays the fax handling instructions configured for a specified line.
dspt38fxlcos	Displays the fax handling instructions for all lines on the current VISM card.
dspt38nsetimeout	Displays a specified configured line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38nsetimeouts	Displays all configured lines with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38params	Displays the T.38 fax transfer parameters for a specified line.

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cnft38params

To configure the T.38 fax transfer parameters for a specified line, use the **cnft38params** command in the VoIP switching/trunking operating mode.

cnft38params *line-num max-xmit-rate* |*info-fld-size d-pkt-size ls-data-red hs-data-red tcf-method err-corr-enable nsf-oride-enable nsf-ccode nsf-vendor*|

Syntax Description

line-num	Line number of the channel, in the range from 1 to 8.
max-xmit-rate	Maximum fax transmission rate (defined in bits per second). It can be one of the following values: • 1 = 2400 • 2 = 4800 • 3 = 7200 • 4 = 9600 • 5 = 12000 • 6 = 14400 (Default)
info-fld-size	(Optional) Fax information field size (defined in bytes). It can be in the range from 20 to 48. (Default = 48)
d-pkt-size	(Optional) Primary high-speed data packet size (defined in milliseconds). It can be one of the following values: • 10 • 20 • 30 • 40 (Default) **Note** Cisco recommends that you select 30 ms for this argument value; 14400 bps fax transfers with a high speed data packet size higher than 30 ms may fail.
ls-data-red	(Optional) Extent of the Internet fax protocol (IFP) packet transmission redundancy for the low-speed control data exchanged during the first phase of a T.38 fax relay connection. It can be in the range from 0 to 5. (Default = 5) The *ls-data-red* argument has the following two different meanings, which depend upon the value of the *err-corr-enable* argument: • If the *err-corr-enable* argument = 1, the *ls-data-red* argument represents the maximum number of forward error correction (FEC) messages within a User Datagram Protocol (UDP) Transport Layer (TL) (UDPTL) packet carrying low-speed data. • If the *err-corr-enable* argument = 2, the *ls-data-red* argument represents the maximum number of prior IFP packets within a UDPTL packet carrying low-speed data, but does not include the primary IFP packet.
hs-data-red	(Optional) Extent of the IFP packet transmission redundancy for the high-speed control and image data exchanged following the initial low-speed phase of a T.38 fax relay connection. It can be in the range from 0 to 2. (Default = 2)

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tcf-method	(Optional) Training check field (TCF) verification method for UDP based fax transport. It can be one of the following values: • 1 = Local—for TCP-based fax transport or UDP-based fax transport. The local TCF method implies that the media gateways are actively involved in the training and data rate management procedure, including the generation of the TCF signal. Data rate management is performed by one of the media gateways on the basis of local results, which are forwarded over the IP network by the other media gateway. The data rate management gateway generates the TCF training signal toward its group 3 fax terminal. • 2 = Network—for UDP-based fax transport. The network TCF method implies that the data rate management is performed end-to-end between the group 3 fax terminals. The TCF training signal is passed by the IP network.
err-corr-enable	(Optional) Forward error correction scheme for UDP-based fax transport. It can be one of the following values: • 1 = On (Default) • 2 = Off
nsf-oride-enable	(Optional) VISM nonstandard facilities (NSF) code override of NSF, nonstandard facilities command (NSC), and nonstandard facilities setup (NSS) T.30 signals. It can be one of the following values: • 1 = On (Default) If you enable NSF override, the group 3 fax machines are prevented from synchronizing with each other on the basis of a protocol other than the ITU-T recommendations. • 2 = Off If you disable NSF override, the group 3 fax machines synchronize to the standard T-series protocol.
nsf-ccode	(Optional) Country code in the NFS code which identifies the country where the NFS fax equipment was manufactured, defined as one byte. Refer to *ITU T.38* for a complete description. It can be in the range from 0 to 65535. (Default = 181)
nsf-vendor	(Optional) Vendor code of the NFS fax equipment manufacturer, defined as two bytes. It can be in the range from 0 to 65535. (Default = 18)

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the T.38 fax transfer parameters for a line number 2 are configured with a maximum fax transmission rate of 7200 bps, a fax information field size of 28 bytes, a primary high-speed data packet size of 20 ms, a low-speed packet transmission redundancy of 3, a high-speed packet transmission redundancy of 0, the network TCF verification method, UDP error correction enabled, NFS code VISM override enabled, a country code of 500, and a vendor code of 4000:

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```
cnft38params 2 3 28 20 3 0 2 1 1 500 4000
```

Related Commands

Command	Description
cnfcodectmpl	Assigns a codec template to an entire VISM card.
cnft38fxlco	Configures the fax handling instructions for a specified line.
cnft38nsetimeout	Configures a specified line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspcodectmpls	Displays all entries in the codec template table.
dspt38fxlco	Displays the fax handling instructions configured for a specified line.
dspt38fxlcos	Displays the fax handling instructions for all lines on the current VISM card.
dspt38nsetimeout	Displays a specified configured line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38nsetimeouts	Displays all configured lines with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38params	Displays the T.38 fax transfer parameters for a specified line.

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cnftftpdn

To select the Trivial File Transfer Protocol (TFTP) domain name, use the **cnftftpdn** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnftftpdn *domain-name*

Syntax Description

domain-name	The TFTP domain name. A text string of 1 to 64 alphanumeric characters.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

The domain name must have been added to the MGC table using the **adddn** command. When selected as a TFTP server, the domain name cannot be used as the call agent domain name.

Examples

The following example shows that the configured TFTP domain name is south:

```
cnftftpdn south
```

Related Commands

There are no related commands.

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cnflntrunkcond

To enable or disable trunk conditioning for a specified VISM card line, use the **cnflntrunkcond** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnflntrunkcond *line-num trunk-cond-enable*

Syntax Description

line-num	Line number of the current VISM card line for which you want to condition a line. It can be in the range from 1 to 8.
trunk-cond-enable	Enables or disables trunk conditioning on a line. It can be one of the following values: • 1 = On • 2 = Off

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

If you enable trunk line conditioning, VISM conditions the affected DS0 when an alarm indication signal (AIS), a blue alarm, is detected on the ATM side. Trunk line conditioning consists of transmitting an idle code pattern for 2.5 seconds followed by the seized code specified in the **cnfcascode** command.

Note This command is not allowed if endpoints or CCS channels are enabled on the line.

Examples

The following example shows that trunk conditioning is enabled for line number 6 on the current VISM card:

```
cnflntrunkcond 6 1
```

Related Commands

Command	Description
cnfcascode	Configures CAS idle code and seized code parameters for an endpoint.

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cnfvbdcodec

To configure voiceband data (VBD) upspeed codec on the current VISM card, use the **cnfvbdcodec** command in the VoIP switching/trunking operating mode.

cnfvbdcodec *upspeed-codec*

Syntax Description

upspeed-codec	Upspeed codec. It can be one of the following values: • 1 = G.711u (Default for T1 VISM cards) • 2 = G.711a (Default for E1 VISM cards) • 3 = G.726-32k • 4 = Clear channel • 5 = G.723.1-H (Valid for template number 4 only) • 6 = G.723.1-L (Valid for template number 4 only) • 7 = G.726-16k • 8 = G.726-24k • 9 = G.726-40k

Command Modes

VoIP switching/trunking

Usage Guidelines

VISM uses the configured codec even if, for example, the configured codec is G.726-32k and VISM is preconfigured with G.711. In this case, an actual downspeed would be performed.

If you configure clear channel, VISM does support a mixed system clock—VISM cannot be originated at a T1 line and terminated at an E1 line, or originated at an E1 line and terminated at a T1 line.

When VISM is configured with clear channel, the codec is not used in the fax/modem upspeed session because VISM cannot detect any tones using clear channel.

AAL2 modes obtain the upspeed codec from the AAL2 profile table. AAL1 does not support compression and therefore does not require upspeed.

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

Note Cisco recommends that you do not use *upspeed-codec* argument values 5 or 6 with this command.

Examples

The following example shows that the VBD upspeed codec is configured as G.711u:

```
cnfvbdcodec 1
```

Related Commands

Command	Description
dspvbdcodec	Displays the upspeed codec used for voiceband data (VBD).

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cnfvbdpol

To configure VISM card level voiceband data (VBD) policies—fax/modem carrier loss and fax/modem upspeed connection admission control (CAC) failure—use the **cnfvbdpol** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfvbdpol *carrier-loss-pol cac-reject-pol*

Syntax Description

carrier-loss-pol	Carrier loss policy. It can be one of the following values: • 1 = Revert to the previous codec • 2 = Maintain the upspeed codec
cac-reject-pol	CAC rejection policy. It can be one of the following values: • 1 = Delete the connection • 2 = Maintain the connection

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the current VISM card reverts to the previous codec for fax/modem carrier loss events and maintains the connection during upspeed CAC failure events:

```
cnfvbdpol 1 2
```

Related Commands

Command	Description
dspvbdpol	Displays the current VISM card level policies for fax/modem upspeed CAC failure and fax/modem carrier loss for call events.

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cnfvismdn

To configure the current VISM card domain name, use the **cnfvismdn** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfvismdn *domain-name*

Syntax Description

domain-name	Current VISM card domain name. A text string of 1 to 64 alphanumeric characters. (Default = cisco.com)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Ensure that you configure the same domain name for the VSC as you do for the VISM card.

The domain name you configure is used when you create an endpoint identification number for each endpoint on a VISM card. The endpoint identification number is used to address SGCP/MGCP commands to a specific endpoint.

If you do not use this command, the default domain name is used.

Examples

The following example shows that the current VISM card is configured with the domain name north:

```
cnfvismdn north
```

Related Commands

Command	Description
cnfvismip	Configures the current VISM card IP address.
dspvismdn	Displays the domain name of the current VISM card.

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cnfvismip

To configure the current VISM card control IP address and subnet mask, and optionally, the bearer IP address and subnet mask, use the **cnfvismip** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfvismip *vip-addr netmask* |*bearer-ipaddr bearer-netmask*|

Syntax Description

vip-addr	Control IP address of the current VISM card, in dotted decimal format (nnn.nnn.nnn.nnn).
netmask	Control local network subnet mask, in dotted decimal format (nnn.nnn.nnn.nnn). It should be assigned the value **255.255.255.248**.
bearer-ipaddr	(Optional) Bearer IP address, in dotted decimal format (nnn.nnn.nnn.nnn).
bearer-netmask	(Optional) Bearer IP subnet mask, in dotted decimal format (nnn.nnn.nnn.nnn).

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

You must configure the control IP address with this command before adding endpoints.

The VISM card control IP address is used to communicate with the VSC and as an identification for VoIP endpoints.

The configured VISM card IP address and subnet mask values are stored on the MGX 8000 Series platform PXM card hard disk and retrieved for subsequent configuration commands.

If you do not specify a bearer IP address and subnet mask, the control IP address and subnet mask are used as both control and bearer.

Examples

The following example shows that the current VISM card is configured with control IP address 209.165.200.224 and subnet mask 255.255.255.248:

```
cnfvismip 209.165.200.224 255.255.255.248
```

Related Commands

Command	Description
dspvismip	Displays the current VISM card IP address.

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cnfvismmode

To configure the initial operating mode for a VISM card, use the **cnfvismmode** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfvismmode *oper-mode*

Syntax Description

oper-mode	VISM card operating mode. It can be one of the following values: • 1 = VoIP switching/VoIP trunking • 2 = ATM Adaptation Layer Type 2 (AAL2) trunking • 3 = Switched ATM AAL1 switched virtual circuit (SVC) • 7 = Switched ATM AAL2 SVC • 8 = Switched ATM AAL2 permanent virtual circuit (PVC) • 9 = VoIP and switched ATM AAL1 SVC

Command Modes

VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

You should delete all connections, ports, and resource partitions (if any) before using this command.

Existing configurations on a VISM card are cleared when you use this command on the card.

Examples

The following example shows that the current VISM card is configured for the VoIP switching/trunking operating mode:

```
cnfvismmode 1
```

Related Commands

There are no related commands.

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cnfvoiptimerparam

To configure the holdover time for voice activity detection (VAD) before silence compression is activated, use the **cnfvoiptimerparam** command in the VoIP switching/trunking operating mode.

cnfvoiptimerparam *vad-timer*

Syntax Description

vad-timer	The VAD holdover timer (defined in milliseconds) in the range from 250 to 65535.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the VAD holdover timer is configured for 360 ms:

cnfvoiptimerparam `360`

Related Commands

Command	Description
cnfvoiptransparams	Configures the VoIP transportation parameters.
dspvoipparams	Displays the VoIP switching/trunking operating mode parameters.

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cnfvoiptransparams

To configure the VoIP transportation parameters—enable dual tone multifrequency (DTMF) and channel associated signaling (CAS) bits transportation to the other endpoint, configure the Named Signaling Event (NSE) triple redundancy feature for NSE packets, and optionally configure the event negotiation policy and silence insertion descriptor (SID) payload type—use the **cnfvoiptransparams** command in the VoIP switching/trunking operating mode.

cnfvoiptransparams *dtmf-trans cas-trans* |*event-neg-enable event-neg-pol sid-type*|

Syntax Description

dtmf-trans	Enables or disables DTMF tone transportation. It can be one of the following values: • 1 = On • 2 = Off **Note** The *dtmf-trans* argument value must be set to 1 (on) when you are using codecs other than G.711 and G.726.
cas-trans	Enables or disables CAS signaling transportation. It can be one of the following values: • 1 = On • 2 = Off
event-neg-enable	(Optional) Enables or disables whether VISM should negotiate how to send events. It can be one of the following values: • 1 = On. Attempt to negotiate how to send events. • 2 = Off. Do not attempt to negotiate how to send events.
event-neg-pol	(Optional) Event negotiation policy. It can be one of the following values: • 1 = None. Call agent driven. • 2 = Proprietary (Default). Call agent driven and VISM proprietary events. • 3 = All. Call agent driven and all event codecs specified by VISM.
sid-type	(Optional) SID payload type. It can be in the range from 0 to 255. (Default = 13)

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that DTMF and CAS bit transportation are enabled and the NSE redundancy feature is not enabled:

```
cnfvoiptransparams 1 1 2
```


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Related Commands

Command	Description
cnfvoiptimerparam	Configures the holdover time for VAD before silence compression is activated.
dspvoipparams	Displays the VoIP switching/trunking operating mode parameters.

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cnfxgcpbt

To configure a default bearer type—if one is not specified by the call agent by the xGCP local connection options—for the current VISM card, use the **cnfxgcpbt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

cnfxgcpbt *network-type vc-type aal-conn-type*

Syntax Description

network-type	Network type. It can be one of the following values: • 1 = IP • 2 = ATM
vc-type	Virtual circuit type. It can be one of the following values: • 1 = Permanent virtual circuit (PVC) • 2 = Switched virtual circuit (SVC)
aal-conn-type	Connection type. It can be one of the following values: • 1 = ATM Adaptation Layer Type 1 (AAL1) • 2 = ATM Adaptation Layer Type 2 (AAL2) • 3 = Not applicable **Note** You must select 3 (not applicable) if you selected a *network-type* argument value of 1 (IP).

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

If the default bearer types (network, VC, or connection) are specified as part of the local connection options, those types take precedence over the types specified in this command.

Examples

The following example shows that the current VISM card is configured for the IP network type and for PVC:

```
cnfxgcpbt 1 1 3
```

Related Commands

Command	Description
dspxgcpbt	Displays the default network, VC, and connection types configured for the current VISM card.

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cnfxgcpinteropsdpost

To enable or disable the Session Descriptor Protocol (SDP) OST interoperability in the call control protocol, use the **cnfxgcpinteropsdpost** command in the VoIP switching/trunking operating mode.

cnfxgcpinteropsdpost *sdp-ost-enable*

Syntax Description

sdp-ost-enable	Enables or disables SDP OST interoperability. It can be one of the following values: • 1 = On (default) • 2 = Off

Command Modes

VoIP switching/trunking

Usage Guidelines

When a CRCX or MDCX command is received from the call agent, VISM can respond by building SDP OST (O =, S =, and T = lines).

If a peer gateway does not support SDP OST, this command can be used to prevent VISM from building SDP OST lines.

Examples

The following example shows that SDP OST interoperability is disabled:

```
cnfxgcpinteropsdpost 2
```

Related Commands

Command	Description
dspxgcpinterops	Displays the SDP OST interoperability feature configuration.

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cnfxgcpmwd

To configure the maximum waiting delay (MWD) value used for sending a Restart in Progress (RSIP) message to the call agent, use the **cnfxgcpmwd** command in the VoIP switching/trunking operating mode.

cnfxgcpmwd *max-wait-delay*

Syntax Description

max-wait-delay	Maximum wait delay time (defined in milliseconds) to send an RSIP message to the call agent. It can be in the range from 0 to 600000. (Default = 10000)

Command Modes

VoIP switching/trunking

Usage Guidelines

Use this command to limit the number of RSIP messages sent to the call agent when an MGX 8000 Series platform configured with multiple VISM cards is started or reset. Each VISM card waits a random amount of time (up to a maximum specified by this command) before sending an RSIP message.

Examples

The following example shows that the maximum waiting delay time to send RSIP messages to the call agent is 300 ms:

```
cnfxgcpmwd 300
```

Related Commands

Command	Description
dspxgcpcnf	Displays previously configured SGCP/MGCP timeout and retry count values.

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cnfxgcppeer

To configure the User Datagram Protocol (UDP) port number used to send gateway-initiated messages to the call agent, use the **cnfxgcppeer** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfxgcppeer *mgc-num protocol-num remote-udp-pnum*

Syntax Description

mgc-num	A number by which the call agent is identified in the range from 1 to 8.
protocol-num	Protocol number. It can be one of the following values: • 1 = MGCP 0.1 • 2 = SGCP 1.1+ • 4 = SGCP 1.5 • 5 = MGCP 1.0
remote-udp-pnum	UDP port number. In the range from 1025 to 65535. (Default = 2427)

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that call agent 1 is configured with protocol number 3 and remote UDP port number 1168:

```
cnfxgcppeer 1 3 1168
```

Related Commands

Command	Description
cnfdisctimers	Specifies the wait delay times for the disconnected procedure, restart in progress command—initial, minimum, and maximum timer values.
cnfmgcgrpprotocol	Configures call agent group protocol data.
dspdisctimers	Displays the Restart in Progress command disconnect type method wait delay times.
dspxgcppeers	Displays all UDP peer ports used by SGCP and MGCP.

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cnfxgcpretry

To configure VISM minimum and maximum request timeouts and retransmission attempts for communication with the associated call agent, use the **cnfxgcpretry** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

cnfxgcpretry *min-vtoca-tout vtoca-retrans-num* |*max-vtoca-tout*|

Syntax Description

min-vtoca-tout	Minimum time (defined in milliseconds) VISM waits for an acknowledgment message from the call agent. It can be in the range from 1 to 100000. (Default = 500)
vtoca-retrans-num	Number of times that a call agent retransmits an unacknowledged message before determining that VISM is unreachable. (Default = 3)
max-vtoca-tout	(Optional) Maximum time (defined in milliseconds) VISM waits for an acknowledgment message from the call agent. It can be in the range from 0 to 100000.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

If you indicate a value for the optional *max-vtoca-tout* argument, VISM exponentially increases the timeout value between the minimum and maximum timeouts. If a maximum value is not specified, the *max-vtoca-tout* value is set equal to the *min-vtoca-tout* value, which disables the exponential backoff.

Examples

The following example shows that VISM will wait a minimum time of 1000 ms and a maximum time of 2000 ms for an acknowledgment message from the call agent, and three call agent retransmission attempts will occur before VISM is determined to be unreachable:

```
cnfxgcpretry 1000 3 2000
```

Related Commands

Command	Description
dspxgcpcnf	Displays previously configured SGCP and MGCP timeout and retransmission attempt values.
dspxgcpretry	Displays the current xGCP retransmission attempt, minimum timeout, and maximum timeout values.

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delannalldynamic

To delete all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card, use the **delannalldynamic** command in the VoIP switching operating mode.

delannalldynamic

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching

Usage Guidelines

This command does not report an error if no announcement files are found.

Examples

The following example shows that all announcement files and their associated codec types are deleted from the temporary announcement files currently saved in the VISM card:

```
delannalldynamic
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.

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Command	Description
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.
dspannreqtimeout	Displays the expiration time for announcements to begin playing before being aborted.

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delanndynamic

To delete an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card, use the **delanndynamic** command in the VoIP switching operating mode.

delanndynamic *ann-filename codec-type*

Syntax Description

ann-filename	Announcement file filename. It can be from 1 to 64 alphanumeric characters, including the following symbols—period (.), forward slash (/), underscore (_), and hyphen (-).
codec-type	The type of coding/decoding to be performed on the data stream. It can be one of the following values: • 1 = G.711u • 2 = G.711a • 3 = G.726-32k • 4 = G.729a • 5 = G.729ab • 7 = G.726-16k • 8 = G.726-24k • 9 = G.726-40k • 11 = G.723-H • 12 = G.723a-H • 13 = G.723.1-L • 14 = G.723.1a-L

Command Modes

VoIP switching

Usage Guidelines

This command does not report an error if the requested file identified by the *ann-filename* argument is not found.

The G.723.1 codecs are supported for VISM-PR cards and are not supported for VISM cards.

Examples

The following example shows that the femalezero1 announcement file and its associated codec type of G.726-40k is deleted from the temporary announcement files currently saved in the VISM card:

```
delanndynamic femalezero1 9
```


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Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.
dspannreqtimeout	Displays the expiration time for announcements to begin playing before being aborted.

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delannpermanent

To delete a permanent announcement file and its associated codec type from the announcement file server, use the **delannpermanent** command in the VoIP switching operating mode.

delannpermanent *pann-index*

Syntax Description

pann-index	Permanent announcement server file identification index number. It can be in the range from 1 to 125.

Command Modes

VoIP switching

Usage Guidelines

Use the **dspannpermanents** command to display a list of available permanent announcement server file names.

Examples

The following example shows that the permanent announcement server file and its associated codec type identified by the announcement server file identification index number 19 is deleted from the announcement file server:

```
delannpermanent 19
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.

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Command	Description
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.

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delcasvar

To delete a channel associated signaling (CAS) variant, use the **delcasvar** command in the VoIP switching/trunking operating mode.

delcasvar *var-name*

Syntax Description

var-name	Name of the CAS variant you want to delete; a text string of 1 to 64 alphanumeric characters.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the CAS variant identified by the name var1 is deleted:

```
delcasvar var1
```

Related Commands

Command	Description
addcasvar	Adds a CAS variant to a VISM card.
cnfcasvar	Configures the CAS variant timing parameters.
dspcasvar	Displays information about CAS variants for a given variant name.

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delccs

To delete the association between a common channel signaling (CCS) DS0 channel and the corresponding virtual channel, use the **delccs** command in the AAL2 trunking operating mode.

delccs *line-num ds0-num*

Syntax Description

line-num	Line number of the channel, in the range from 1 to 8.
ds0-num	DS0 number of the channel. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines

Command Modes

AAL2 trunking

Usage Guidelines

The original association is configured with the **addccs** command.

Examples

The following example shows that the CCS channel on line 2, DS0 12 is deleted:

```
delccs 2 12
```

Related Commands

There are no related commands.

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delcid

To delete the association between an endpoint and an LCN/CID pair, use the **delcid** command in the AAL2 trunking operating mode.

delcid *lcn cid-num*

Syntax Description

lcn	The logical channel number of the LCN/CID pair in the range from 131 to 510.
cid-num	The channel identification number of the LCN/CID pair in the range from 8 to 255.

Command Modes

AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the endpoint association for LCN 140 and CID 12 is deleted:

```
delcid 140 12
```

Related Commands

Command	Description
addcid	Adds an AAL2 CID on a VISM card.
dspcid	Displays the data of an AAL2 CID on a VISM card.
dsplncids	Displays the CID, endpoint, and AAL2 data for a specified line.

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delcon

To delete a PVC between a VISM card and an MGX 8000 Series shelf PXM card, use the **delcon** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

delcon *lcn*

Syntax Description

lcn	Logical channel number of the PVC to be deleted, in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

You cannot delete a connection if it is protected or if CIDs are present.

Examples

The following example shows that the PVC connection for LCN 140 is deleted:

```
delcon 140
```

Related Commands

Command	Description
addcon	Adds a PVC connection between a VISM card and any SM or PXM card.

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delconloop

To delete a local loopback state on a connection to the cellbus, use the **delconloop** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

delconloop *lcn*

Syntax Description

lcn	Logical channel number of the connection from which you want to delete the local loopback state, in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the local loopback state is deleted from LCN 140:

```
delconloop 140
```

Related Commands

Command	Description
addconloop	Sets a cellbus connection to the local loopback state.

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deldn

To delete a domain name, use the **deldn** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

deldn *domain-name-num*

Syntax Description

domain-name-num	Domain name number. It can be in the range from 1 to 11.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

If the domain name you want to delete is the last entry in the domain table and if the domain name exists in the list of call agents that VISM maintains (as displayed by the **dspmgcs** command), deletion is not allowed.

You must manually delete all statistically provisioned IP addresses for the domain name before you can delete the domain name.

You should not delete a domain name if it is used as one of the following:

- Media Gateway Controller (MGC)
- Trivial File Transfer Protocol (TFTP) server
- Domain name server (DNS)
- Announcement server

Examples

The following example shows that the domain name represented by domain name number 12 is deleted:

```
deldn 12
```

Related Commands

Command	Description
adddn	Adds a domain name (call agent name) and optionally configures the resolution type of the domain name.
adddnip	Adds the IP addresses for a domain name that you added by using the **adddn** command.
cnfdn	Configures the resolution type of a specified domain name.
cnfdnssrvr	Designates a domain name as a DNS.
deldnip	Deletes a statistically provisioned IP address of a domain name.
dspdnallips	Displays all statistically provisioned IP addresses and externally resolved IP addresses for all domain names configured on the current VISM card.
dspdnips	Displays all statistically provisioned and externally resolved IP addresses configured for a specified domain name.
dspdns	Displays the configuration data of all domain names of a call agent.
dspdnssrvr	Displays the domain name of the configured DNS of the current VISM card.

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deldnip

To delete a statistically provisioned IP address of a domain name, use the **deldnip** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

deldnip *resol-num*

Syntax Description

resol-num	Resolution number of the domain name. It can be in the range from 1 to 88.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

You cannot delete IP addresses that use external resolution of the domain name. You should not delete the last IP address of a given domain name if it is used as one of the following:

- Media Gateway Controller (MGC)
- Trivial File Transfer Protocol (TFTP) server
- Domain name server (DNS)
- Announcement server

Examples

The following example shows that the IP address associated with the resolution number 46 is deleted from a domain name:

```
deldnip 46
```

Related Commands

Command	Description
adddn	Adds a domain name (call agent name) and optionally configures the resolution type of the domain name.
adddnip	Adds the IP addresses for a domain name that you added by using the **adddn** command.
cnfdn	Configures the resolution type of a specified domain name.
cnfdnssrvr	Designates a domain name as a DNS.
deldn	Deletes a domain name.
dspdnallips	Displays all statistically provisioned IP addresses and externally resolved IP addresses for all domain names configured on the current VISM card.
dspdnips	Displays all statistically provisioned and externally resolved IP addresses configured for a specified domain name.
dspdns	Displays the configuration data of all domain names of a call agent.
dspdnssrvr	Displays the domain name of the configured DNS of the current VISM card.

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delendpt

To delete a specified endpoint on a VISM card line, use the **delendpt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

delendpt *endpt-num*

Syntax Description

endpt-num	Endpoint number. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

An endpoint cannot be deleted if CIDs are present.

This command results in a graceful transition to out of service and an RSIP to be sent to each associated call agent indicating the endpoint out-of-service state.

Examples

The following example shows that endpoint number 120 is deleted:

```
delendpt 120
```

Related Commands

Command	Description
addendpt	Adds an endpoint on a VISM card.
dspendpt	Displays data about a specified endpoint on a VISM card.
dspendpts	Displays information about all endpoints on a VISM card.

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delendptloop

To take an endpoint out of the loopback condition, use the **delendptloop** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

delendptloop *endpt-num*

Syntax Description

endpt-num	Endpoint number which is to be deleted. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the loopback state is deleted from endpoint number 120:

```
delendptloop 120
```

Related Commands

Command	Description
addendptloop	Places an endpoint in the loopback condition in the TDM direction.

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delendpts

To delete a range of consecutive endpoints on a VISM card, use the **delendpts** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

delendpts *start-endpt endpt-quantity*

Syntax Description

start-endpt	Beginning endpoint number of a range of consecutive endpoints. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144
endpt-quantity	The quantity of endpoints deleted. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

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Command Modes VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines This command results in a graceful transition to the out-of-service state for each deleted endpoint and an RSIP to be sent to each associated call agent indicating the out-of-service state of the endpoints.

If the specified range of endpoints to be deleted contains gaps, the gaps are not counted. For example, if the current endpoints are 3, 4, 7, 8, 9 10, 11,12 and the command specifies a start at 4 and a number of 5, the endpoints deleted are 4, 7, 8, 9, and 10.

Examples The following example shows that 10 endpoints are deleted, starting with endpoint number 120:

```
delendpts 120 10
```

Related Commands

Command	Description
addendpt	Adds an endpoint on a VISM card.
dspendpt	Displays data about a specified endpoint on a VISM card.
dspendpts	Displays data about all endpoints on a VISM card.

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dellapd

To delete an Link Access Protocol D channel (LAPD), use the **dellapd** command in the VoIP switching/trunking operating mode.

dellapd *line-num ds0-num*

Syntax Description

line-num	Line number of the channel from which to delete an LAPD, in the range from 1 to 8.
ds0-num	DS0 number of the channel from which to delete an LAPD. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the D channel for line number 2, DS0 number 14 is deleted:

```
dellapd 2 14
```

Related Commands

Command	Description
addlapd	Adds an LAPD from a specified DS0 to a VISM card.
dsplapd	Displays data about an LAPD.
dsplapds	Displays data about all LAPDs.

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dellapdtrunk

To delete a Link Access Protocol D channel (LAPD) configured line, use the **dellapdtrunk** command in the VoIP switching/trunking operating mode.

dellapdtrunk *line-num*

Syntax Description

line-num	Line number to delete. In the range from 1 to 8.

Command Modes

VoIP switching/trunking

Usage Guidelines

You must use the **dellapd** command to delete the corresponding LAPD channel before you can delete the LAPD trunk.

Examples

The following example shows that the LAPD configured line, line number 7, is deleted:

```
dellapdtrunk 7
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.

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Command	Description
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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delln

To delete a DS1 line on a VISM card, use the **delln** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

delln *ds1-num*

Syntax Description

ds1-num	Physical line number in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

You must delete endpoints and CCS channels from the line before the line can be deleted.

Examples

The following example shows that line number 4 is deleted:

```
delln 4
```

Related Commands

Command	Description
addln	Adds a T1 or E1 line to a VISM card.
cnfln	Configures characteristics for a VISM card line.
dspln	Displays the characteristics of a specified VISM card line.
dsplns	Displays the characteristics for all lines on a VISM card.

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dellnloop

To delete the T1 or E1 local line loopback state for a VISM card, use the **dellnloop** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dellnloop *ds1-num*

Syntax Description

ds1-num	DS1 line number on the VISM card for which the local loop is to be deleted, in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the local loopback for line 6 is deleted:

```
dellnloop 6
```

Related Commands

Command	Description
dspln	Displays the data configured on a specified line.

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dellntoneplan

To delete a built-in or provisional tone plan configuration from a specified VISM card line, use the **dellntoneplan** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dellntoneplan *line-num*

Syntax Description

line-num	Line number of the channel for which you want to delete the configured tone plan. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the tone plan configuration for line number 5 is deleted:

```
dellntoneplan 5
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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delmgc

To delete a call agent from a VISM card's list of configured call agents, use the **delmgc** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

delmgc *mgc-num*

Syntax Description

mgc-num	A number by which the call agent is identified, as displayed by the **dspmgcs** command, in the range from 1 to 8.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the call agent identified by the number 3 is deleted:

```
delmgc 3
```

Related Commands

Command	Description
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
dspmgcs	Displays configuration data on all configured call agents.

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delmgcgrpentry

To delete a call agent from a call agent redundancy group, use the **delmgcgrpentry** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

delmgcgrpentry *mgc-group mgc-num*

Syntax Description

mgc-group	Call agent redundancy group number. It can be in the range from 1 to 8.
mgc-num	Call agent identification number. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

The last call agent within a call agent redundancy group cannot be deleted if there are protocols associated with the call agent redundancy group.

A call agent redundancy group is deleted when the last call agent has been deleted from a group.

Use the **dspmgcgrpparams** CLI to verify your configuration.

Examples

The following example shows that call agent number 2 is deleted from call agent redundancy group number 1:

```
delmgcgrpentry 1 2
```

Related Commands

Command	Description
addmgcgrpentry	Configures call agents as part of an MGC redundancy group and assigns a priority value for a call agent.
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
cnfmgcgrpentry	Modifies the call agent priority level of a call agent within a call agent redundancy group.
cnfsrcppeer	Configures the SRCP parameters when SRCP is the selected protocol for communication between the VISM card and call agent.
cnfsrcppeergrpparam	Modifies the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspmgcgrpparams	Displays all configured call agent redundancy group parameters.
dspmgcgrpprotocols	Displays all configured call agent redundancy group protocols.
dspmgcgrps	Displays all configured call agent redundancy groups.
dspsrcppeergrpparams	Displays the SRCP parameters for all call agent redundancy groups that have SRCP added.

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delmgcgrpprotocol

To delete a Media Gateway Control Protocol (MGCP) from a specified call agent redundancy group, use the **delmgcgrpprotocol** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

delmgcgrpprotocol *mgc-group protocol-num*

Syntax Description

mgc-group	Call agent redundancy group number. It can be in the range from 1 to 8.
protocol-num	Protocol number. It can be one of the following values: • 1 = MGCP 0.1 • 2 = SGCP 1.1+ • 3 = SRCP 1.0.2 • 4 = SGCP 1.5 • 5 = MGCP 1.0 In the range from 6 to 8, as displayed by the **dspmgcgrpprotocols** command.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that protocol number 2 is deleted from call agent redundancy group number 3:

```
delmgcgrpprotocol 3 2
```

Related Commands

Command	Description
addmgcgrpentry	Configures call agents as part of an MGC redundancy group and assigns a priority value for a call agent.
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfdisctimers	Specifies the wait delay times for the disconnected procedure, restart in progress command—initial, minimum, and maximum timer values.
cnfmgcgrpentry	Modifies the call agent priority level of a call agent within a call agent redundancy group.
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
cnfmgcgrpprotocol	Configures call agent group protocol data.
cnfsrcppeer	Configures the SRCP parameters when SRCP is the selected protocol for communication between the VISM card and call agent.

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Command	Description
cnfsrcppeergrpparam	Modifies the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group.
delmgcgrpentry	Deletes a call agent from a call agent redundancy group.
dspdisctimers	Displays the Restart in Progress command disconnect type method wait delay times.
dspmgcgrpparams	Displays all configured call agent redundancy group parameters.
dspmgcgrpprotocols	Displays all configured call agent redundancy group protocols.
dspmgcgrps	Displays all configured call agent redundancy groups.
dspsrcppeergrpparams	Displays the SRCP parameters for all call agent redundancy groups that have SRCP added.

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delport

To delete the VISM port on the packet network side, use the **delport** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

delport

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

You should execute this command before you remove the VISM card.

Caution If you remove a VISM card with an undeleted port, subsequent cards inserted into the same slot may not operate correctly. You should delete the resource partition and all PVCs before deleting the port.

When you use this command, the entry with the following port numbers is deleted in the following manner:

- Entry 1 is deleted from a PXM1 card
- Entry 255 is deleted from a PXM1E card

Examples

The following example shows that the VISM port on the packet network side is deleted:

```
delport
```

Related Commands

Command	Description
dspport	Displays data about the virtual port that was created using the **addport** command.

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delrscprtn

To delete a resource partition which was created by the **addrscprtn** command, use the **delrscprtn** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

delrscprtn

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the current resource partition is deleted:

```
delrscprtn
```

Related Commands

Command	Description
addrscprtn	Adds a resource partition for a virtual port.
dspsrcppeers	Displays the peer configuration data for all known SRCP peers (call agents).

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delrtpcon

To delete a static Real-Time Transport Protocol (RTP) VoIP trunking connection, use the **delrtpcon** command in the VoIP switching/trunking operating mode.

delrtpcon *conn-num*

Syntax Description

conn-num	Connection identification number. It can be in the range from 1 to 248.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the static RTP connection number 200 is deleted:

```
delrtpcon 200
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specified RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specified static RTP VoIP trunking connection.
dsprtpconnstat	Displays the RTP connection statistics for a specified endpoint.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.

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Command	Description
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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delrudptrunk

To delete an ISDN PRI backhaul Reliable User Datagram Protocol (RUDP) session that is associated with a Link Access Protocol D channel (LAPD), use the **delrudptrunk** command in the VoIP switching/trunking operating mode.

delrudptrunk *session-num*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.

Command Modes

VoIP switching/trunking

Usage Guidelines

You must use the **dellapdtrunk** command to delete the LAPD trunk before you delete the RUDP trunk.

Examples

The following example shows that the ISDN PRI backhaul RUDP session number 51, which is associated with an LAPD, is deleted:

```
delrudptrunk 51
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specified RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specified static RTP VoIP trunking connection.

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Command	Description
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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delses

To delete a PRI backhaul session, use the **delses** command in the VoIP switching/trunking and switched AAL2 PVC operating mode.

delses *session-num*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that session number 3 is deleted:

```
delses 3
```

Related Commands

Command	Description
addses	Adds a PRI backhaul session between a VISM card and a call agent.
dspses	Displays data about an individual PRI backhaul session.
dspsess	Displays data about all PRI backhaul sessions.

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delsesgrp

To delete a PRI backhaul session group, use the **delsesgrp** command in the VoIP switching/trunking and switched AAL2 PVC operating mode.

delsesgrp *group-num*

Syntax Description

group-num	Identifying session group number in the range from 1 to 16.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

You must delete all sessions in the session group before you use this command to delete the session group.

Examples

The following example shows that session group number 2 is deleted:

```
delsesgrp 2
```

Related Commands

Command	Description
addsesgrp	Adds a PRI backhaul session group between a VISM card and a call agent.
dspsesgrp	Displays data about a PRI backhaul session group.
dspsesgrps	Displays data about all PRI backhaul session groups.

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delsesset

To delete a PRI backhaul session set, use the **delsesset** command in the VoIP switching/trunking and switched AAL2 PVC operating mode.

delsesset *set-num*

Syntax Description

set-num	Identifying session set number. It can be in the range from 1 to 16. **Note** Currently, only session set number 1 is supported.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

You must delete all session groups in the session set before you use this command to delete the session set.

Examples

The following example shows that session set number 1 is deleted:

```
delsesset 1
```

Related Commands

Command	Description
addsesset	Adds a PRI backhaul session set between a VISM card and a call agent.

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deltoneplan

To delete a provisional tone plan from the system, use the **deltoneplan** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

deltoneplan *tonep-region tonep-version*

Syntax Description

tonep-region	Tone plan country or region which you want to delete from VISM. It can be in the range from 1 to 64 alphanumeric characters. This argument is case sensitive.
tonep-version	Tone plan version number of the tone plan country or region you want to delete from VISM. It can be in the range from 1 to 65535.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

If the tone plan you want to delete is assigned to a VISM card line, you cannot delete the tone plan. Use the **dellntoneplan** command to remove a tone plan assignment from a VISM card line.

This command does not delete the tone plan file from the TFTP server, which allows you to use the **addtoneplan** command to add the tone plan back into the system, as needed.

Note You cannot delete built-in tone plans from the system with this command.

Examples

The following example shows that the tone plan identified by the tone plan region name singapore and tone plan version number 11 is deleted from the current VISM card:

```
deltoneplan singapore 11
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.

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Command	Description
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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delxgcpcon

To delete an xGCP connection specified by the xGCP connection identification number, use the delxgcpcon command in the VoIP switching/trunking and switched AAL2 PVC operating mode.

delxgcpcon *conn-id*

Syntax Description

conn-id	Connection identification number. It can be in the range of hexadecimal numbers from 0 to f.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the connection represented by the hexadecimal connection identification B is configured for gateway-initiated DLCX commands:

```
delxgcpcon b
```

Related Commands

Command	Description
dspxgcpcon	Displays the attributes associated with a call agent established connection.
dspxgcpcons	Displays the xGCP connection ID, endpoint name, and call ID corresponding to each call agent established connection on the gateway.

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delxgcppersistevt

To delete a persistent xGCP event, use the **delxgcppersistevt** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

delxgcppersistevt *event-num*

Syntax Description

event-num	The persistent event index package event number in the range from 1 to 16.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the persistent xGCP event represented by event number 1 is deleted:

```
delxgcppersistevt 1
```

Related Commands

Command	Description
addxgcppersistevt	Adds persistent xGCP events.

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dncon

To configure a specified connection down, preventing traffic from being passed to the specified connection, use the **dncon** command in the VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC operating modes.

dncon *lcn*

Syntax Description

lcn	The logical channel number. It can be in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

If you use this command and the previous channel state is active (up), a connection down trap is sent.

Examples

The following example shows that connection 188 is configured to be administratively down and no traffic is passed to it:

```
dncon 188
```

Related Commands

Command	Description
dspcon	Displays the parameters for a specified channel.
upcon	Configures a specified connection up, allowing traffic to be passed to the specified connection.

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dspaal2params

To display AAL2 configuration parameters, use the **dspaal2params** command in the switched AAL2 PVC and AAL2 trunking operating modes.

dspaal2params

Syntax Description

This command has no arguments or keywords.

Command Modes

Switched AAL2 PVC and AAL2 trunking

Usage Guidelines

Use this command to display the following AAL2 configuration parameters:

- DTMF relay status
- CAS bit transport status
- Type3 redundancy status
- VAD timer value
- CID fill timer value

Examples

The following example shows that the AAL2 configuration parameters are displayed:

```
dspaal2params

AAL2 DTMF RELAY:          Off
AAL2 CAS BITS TRANSPORT:  Off
AAL2 TYPE3 REDUNDANCY:    On
AAL2 VAD TIMER:           250
AAL2 CID FILL TIMER:      30
```

Related Commands

Command	Description
cnfaal2timerparams	Configures the holdover time for VAD before activating silence suppression on an AAL2 PVC.
cnfaal2transparams	Configures the transportation of DTMF and CAS bits to another endpoint and enables or disables the type 3 packet triple redundancy feature.

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dspaal2profile

To display data about a specified AAL2 profile type and profile number, use the **dspaal2profile** command in the AAL2 trunking operating mode.

dspaal2profile *profile-type profile-num*

Syntax Description

profile-type	The profile type to be used for the CID. It can be one of the following values: • 1 = International Telecommunication Union (ITU) I.366.2 • 3 = Custom
profile-num	Number of the profile. It can be one of the following values: • 1 = ITU profile type • 2 = ITU profile type • 3 = ITU profile type • 7 = ITU profile type • 8 = ITU profile type • 12 = ITU profile type • 100 = custom profile types • 101 = custom profile types • 110 = custom profile types • 200 = custom profile types

Command Modes

AAL2 trunking

Usage Guidelines

The AAL2 profiles correspond to the profile types ITU and ATMF as defined in the ITU-T I.366.2 and ATM forum AF-VTOA-0113 standards respectively.

Examples

The following example shows that the data for AAL2 profile type 1 and profile number 1 is displayed:

```
dspaal2profile 1 1

   UUI      Packet                              Packet  Seq. No.
Codepoint   Length                               Time   Interval
  Range    (octets)  Codec       SID      M    (ms)      (ms)
   0-15       40     PCMU        No SID   1     5         5
   0-15       40     PCMA        No SID   1     5         5
```

Related Commands

There are no related commands.

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dspalm

To display the alarms associated with a specified line, use the **dspalm** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspalm -ds1 *line-num*

Syntax Description

-ds1	The mandatory *line-num* argument identifier.
line-num	Line number of the T1 or E1 line for which you want to display alarms. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the line 1 alarms are displayed:

```
dspalm -ds1 1

LineNum:1
LineAlarmState: Alarm(s) On --
                XmtRAI
                RcvLOS
LineStatisticalAlarmState: No Statistical Alarms
```

Related Commands

Command	Description
clralm	Clears alarms on a specific VISM card line.
dspalms	Displays all alarms for a selected line type on a VISM card.

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dspalmcnf

To display the threshold data about the alarm statistics being collected, use the **dspalmcnf** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspalmcnf -ds1 *line-num*

Syntax Description

-ds1	The mandatory *line-num* argument identifier.
line-num	Line number of the T1 or E1 line for which you want to display alarm statistic threshold data. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the alarm statistic threshold data for line 1 is displayed:

```
dspalmcnf -ds1 1

LineNum:                   1
  RedSeverity:               Major
  RAISeverity:               Minor
  NEAlarmUpCount:            6
  NEAlarmDnCount:            1
  NEAlarmThreshold:          1500
  FEAlarmUpCount:            6
  FEAlarmDnCount:            1
  FEAlarmThreshold:          1500
  StatisticalAlarmSeverity: Minor
  lCV15minThreshold:         14
  lCV24hrThreshold:          134
  lES15minThreshold:         12
  lES24hrThreshold:          121
  lSES15minThreshold:        10
  lSES24hrThreshold:         100
  cRC15minThreshold:         14
  cRC24hrThreshold:          134
  cRCES15minThreshold:       12
  cRCES24hrThreshold:        121
  cRCSES15minThreshold:      10
  cRCSES24hrThreshold:       100
  SEFS15minThreshold:        2
  SEFS24hrThreshold:         17
  AISS15minThreshold:        2
  AISS24hrThreshold:         17
  UAS15minThreshold:         10
```


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Related Commands

Command	Description
cnfalmcnt	Configures the collection of TDM line statistics.
dspalm	Displays the alarms associated with a specified line.
dspalms	Displays all alarms for the selected line type on a card.

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dspalmcnt

To display alarm counters and statistics, use the **dspalmcnt** command in the VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC operating modes.

dspalmcnt -ds1 *line-num*

Syntax Description

-ds1	The mandatory *line-num* argument identifier.
line-num	Line number of the T1 or E1 line for which you want to alarm counters and statistics. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

See the **cnfalmcnt** command description for a list of the TDM line statistics that are collected and then displayed by this command.

Examples

The following example shows that the alarm counters and statistics for line 1 are displayed:

```
dspalmcnt -ds1 1

LineNum:                1
  lCVCurrent:             0
  lCVLast15minBucket:     0
  lCVLast24hrBucket:      0
  lESCurrent:             0
  lESLast15minBucket:     0
  lESLast24hrBucket:      0
  lSESCurrent:            0
  lSESLast15minBucket:    0
  lSESLast24hrBucket:     0
  cRCCurrent:             0
  cRCLast15minBucket:     0
  cRCLast24hrBucket:      0
  cRCESCurrent:           0
  cRCESLast15minBucket:   0
  cRCESLast24hrBucket:    0
  cRCSESCurrent:          0
  cRCSESLast15minBucket:  0
  cRCSESLast24hrBucket:   0
  sEFSCurrent:            430
  sEFSLast15minBucket:    900
  sEFSLast24hrBucket:     11699
  aISSCurrent:            0
  aISSLast15minBucket:    0
  aISSLast24hrBucket:     0
  uASCurrent:             430
  uASLast15minBucket:     900
  uASLast24hrBucket:      11696
  percentEFS:             100
  RcvLOSCount:            1
```


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```
RcvOOFCount:            1
RcvRAICount:            0
RcvFECount:             97997379
```

Related Commands

Command	Description
clralmcnt	Clears the alarm counters and statistics on a specified VISM card line.
clralmcnts	Clears all alarm counters and statistics on a VISM card.
dspalmcnf	Displays the threshold data about the alarm statistics being collected.

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dspalms

To display the alarms for a specified VISM card line type, use the **dspalms** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspalms *line-type*

Syntax Description

line-type	Line type, -ds1 = T1 or E1 lines.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the alarms for the T1 line type are displayed:

```
dspalms -ds1

Line  AlarmState   StatisticalAlarmState
----  -----------  ---------------------
5.1   No Alarms    No Statistical Alarms
5.2   No Alarms    No Statistical Alarms
5.3   No Alarms    No Statistical Alarms
```

Related Commands

Command	Description
dspalm	Displays the alarms associated with a specified line.

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dspannagetime

To display the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache, use the **dspannagetime** command in the VoIP switching operating mode.

dspannagetime

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the age time for nonpermanent announcements is two hours. After two hours the nonpermanent announcements are refreshed from the announcement file server:

```
dspannagetime

Announcement Age Time: 120 minutes
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.

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Command	Description
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.

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dspanncache

To display all available temporary announcement file names, and associated age times before being refreshed from the announcement file server, contained in the current VISM card, use the **dspanncache** command in the VoIP switching operating mode.

dspanncache

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the temporary announcement file names zero and one are each configured with an age time of 1000 minutes:

```
dspanncache

File Name    Codec   Time Till Aged
zero         1       1000
one          2       1000
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.

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Command	Description
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.
dspannreqtimeout	Displays the expiration time for announcements to begin playing before being aborted.

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dspanncontrols

To display a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands, use the **dspanncontrols** command in the VoIP switching operating mode.

dspanncontrols

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows a summary list of all provisionable announcement file variables:

```
dspanncontrols

Announcement Table Size:        125 entries
Announcement File Server:       server1
Announcement Age Time:          10080 minutes
Announcement Preference Codec:  G711.a
Announcement Prefix Path:       path1
Announcement Req Timeout:       5 seconds
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.

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Command	Description
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.
dspannreqtimeout	Displays the expiration time for announcements to begin playing before being aborted.

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dspanndn

To display the announcement file server domain name, use the **dspanndn** command in the VoIP switching operating mode.

dspanndn

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the name of the announcement file server is displayed:

```
dspanndn

Announcement File Server: announceserver3
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.

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Command	Description
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.

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dspannpathprefix

To display the main prefix directory path from which VISM retrieves announcement files from the announcement file server, use the **dspannpathprefix** command in the VoIP switching operating mode.

dspannpathprefix

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that a main prefix directory TFTP path is path4:

```
dspannpathprefix

Announcement Prefix Path: path4
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.

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Command	Description
dspanndn	Displays the announcement file server domain name.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.

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dspannpermanents

To display all available permanent announcement files with their associated codec types and identifying index numbers, use the **dspannpermanents** command in the VoIP switching operating mode.

dspannpermanents

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the available permanent announcement files with associated codec types and identifying index numbers are displayed:

```
dspannpermanents

Number     Status     File Name          Codec
1          loaded     alllinesbusy.au    G.726-40K
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.

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Command	Description
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.

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dspannprefcodec

To display the codec type used for announcements played on unconnected Time Division Multiplex (TDM) endpoints, use the **dspannprefcodec** command in the VoIP switching operating mode.

dspannprefcodec

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the G.711u codec type is configured for announcements played on unconnected TDM endpoints:

```
dspannprefcodec

Announcement Preference Codec: G.711u
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.

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Command	Description
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.

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dspannreqtimeout

To display the expiration time for announcements to begin playing before being aborted, use the **dspannreqtimeout** command in the VoIP switching operating mode.

dspannreqtimeout

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the announcements must begin playing by 12 seconds or they will be aborted:

```
dspannreqtimeout

Annoucement Req Timeout: 12 seconds
```

Related Commands

Command	Description
addannpermanent	Configures an announcement server file and associated codec type as permanent.
cnfannagetime	Configures the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
cnfanndn	Designates an announcement file server domain name.
cnfannpathprefix	Designates the main prefix directory TFTP path from which to retrieve announcement files from the announcement file server.
cnfannprefcodec	Configures the codec type used for announcements played on unconnected TDM endpoints.
cnfannreqtimeout	Configures the expiration time for announcements to begin playing after the VISM receives the announcement signal (request) from the call agent.
delannalldynamic	Deletes all announcement files and their associated codec types from the temporary announcement files currently saved in the VISM card.
delanndynamic	Deletes an announcement file and associated codec type from the temporary announcement files currently saved in the VISM card.
delannpermanent	Deletes a permanent announcement file and its associated codec type from the announcement file server.
dspannagetime	Displays the time that a nonpermanent announcement is to remain valid after it is placed into the VISM announcement cache.
dspanncache	Displays all available temporary announcement file names, and associated age times before being refreshed from the announcement file server.

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Command	Description
dspanncontrols	Displays a summary list of all provisionable announcement file variables, including variables associated with all announcement file CLI commands.
dspanndn	Displays the announcement file server domain name.
dspannpathprefix	Displays the main prefix directory path from which VISM retrieves announcement files from the announcement file server.
dspannpermanents	Displays all available permanent announcement files with their associated codec types and identifying index numbers.
dspannprefcodec	Displays the codec type used for announcements played on unconnected TDM endpoints.

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dspcacfailcntrs

To display the connection admission control (CAC) failure counters that are set to 0, use the **dspcacfailcntrs** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcacfailcntrs

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Use this command for debugging purposes—to reset counters and isolate VISM CAC-related failures. Counter values greater than 0 indicate that the gateway is low on resources.

Examples

The following example shows that the CAC failure counters that are set to 0 are displayed:

```
dspcacfailcntrs

PVC Addition Failures       :0
SVC Addition Failures       :0
VC CAC Failures for PVCs    :0
PVC Upspeed Failures        :0
SVC Upspeed Failures        :0
```

Related Commands

Command	Description
clrcacfailcntrs	Resets the CAC failure counters to 0.

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dspcalea

To display the Communications Assistance for Law Enforcement Act (CALEA) feature configuration status of the current VISM card, use the **dspcalea** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcalea

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the CALEA feature is enabled on the current VISM card:

```
dspcalea

CALEA: enable
```

Related Commands

Command	Description
addcon	Adds a PVC connection between a VISM card and any SM or PXM card.
cnfcalea	Enables or disables the CALEA feature on the current VISM card.
cnfcon	Configures a connection between a VISM card and an MGX 8000 Series platform PXM card.
dspvismparam	Displays the current VISM card configuration.

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dspcarddsp

To display all card level configuration parameters for both echo cancellation (ECAN) and voice compression DSPs, use the **dspcarddsp** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcarddsp

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

The packetization period and default type of service parameters apply to the VoIP switching/trunking operating mode only.

Examples

The following example shows that the card level configuration parameters for ECAN and voice compression DSPs are displayed:

```
dspcarddsp

IdlePattern:              0x7f or 0xff
IdleDirection:            Both
PacketSize:               80 bytes
DB loss:                  sixdb
Jitter buffer mode:       fixed
Jitter buffer size:       forty msec
Adaptive Gain Control:    off
```

Related Commands

There are no related commands.

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dspcasendpts

To display data about configured channel associated signaling (CAS) endpoints, use the **dspcasendpts** command in the VoIP switching/trunking operating mode.

dspcasendpts

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the CAS endpoint configuration data is displayed:

```
dspcasendpts

Endptds0Num CasVarName CasOnTime CasOffTime
  -----  ------ ---------- --------- ---------
   2       2          immd       75        75
   5       5          wink       75        75
  10      10          wink       75        75
```

Related Commands

Command	Description
dspcasvarendpts	Displays all endpoints associated with a specified CAS variant name.

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dspcasglareattrib

To display the direction of channel associated signaling (CAS) calls and the glare policy for a specified endpoint, use the **dspcasglareattrib** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcasglareattrib *endpt-num*

Syntax Description

endpt-num	Endpoint number for which you want to display the CAS glare attributes. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the CAS glare attributes for endpoint number 204 are displayed:

```
dspcasglareattrib 204

Ds0IfIndex:        204
Cas Diretionality: incoming
Cas Glare Policy:  controlling
```


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Related Commands

Command	Description
addxgcppersistevt	Adds persistent xGCP events.
cnfcasflashtime	Configures the minimum and maximum CAS on-hook time periods for incoming flash hooks on a specified endpoint.
cnfcasglareattrib	Configures the direction of CAS calls and the glare policy for a specified endpoint.
cnfcaspackage	Configures MGCP packages to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
cnflndigitorder	Assigns the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.
delxgcppersistevt	Deletes a persistent xGCP event.
dspcaspackage	Displays the MGCP packages configured to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
dspcastimers	Displays the currently configured CAS timers for a specified endpoint.
dsplndigitorder	Displays the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.

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dspcaspackage

To display the Media Gateway Control Protocol (MGCP) packages configured to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint, use the **dspcaspackage** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcaspackage *endpt-num*

Syntax Description

endpt-num	Endpoint number for which you want to display the CAS packages. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the MGCP packages for incoming and outgoing calls on endpoint number 49 are displayed:

```
dspcaspackage 49

Ds0fIndex:        49
incoming CAS Pkg: MS
Outgoing CAS Pkg: DT
```


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Related Commands

Command	Description
addxgcppersistevt	Adds persistent xGCP events.
cnfcasflashtime	Configures the minimum and maximum CAS on-hook time periods for incoming flash hooks on a specified endpoint.
cnfcasglareattrib	Configures the direction of CAS calls and the glare policy for a specified endpoint.
cnfcaspackage	Configures MGCP packages to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
cnflndigitorder	Assigns the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.
delxgcppersistevt	Deletes a persistent xGCP event.
dspcasglareattrib	Displays the direction of CAS calls and the glare policy for a specified endpoint.
dspcastimers	Displays the currently configured CAS timers for a specified endpoint.
dsplndigitorder	Displays the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.

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dspcasparamsource

To display the currently configured timer source parameters for channel associated signaling (CAS) of a specified endpoint, use the **dspcasparamsource** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcasparamsource *endpt-num*

Syntax Description

endpt-num	Endpoint number for which you want to display the CAS parameter source. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the CAS parameter source for endpoint number 1 is displayed:

```
dspcasparamsource 1

Ds0IfIndex:         1
CasParameterSource: MibValue
```

Related Commands

Command	Description
cnfcasparamsource	Configures an endpoint's CAS-related timer parameters source.

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dspcastimers

To display the currently configured channel associated signaling (CAS) timers for a specified endpoint, use the **dspcastimers** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcastimers *endpt-num*

Syntax Description

endpt-num	Endpoint number for which you want to display the currently configured CAS timers. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the currently configured CAS timers for endpoint number 1 are displayed:

```
dspcastimers 1

Ds0IfIndex:             1
CasOnHookMinMakeTime:   300
CasOffHookMinMakeTime:  20
CasWinkMinMakeTime:     100
CasWinkMaxMakeTime:     1000
CasWinkBreakTime:       20
CasGlareTime:           500
CasGuardTime:           800
CasDialDelayTime:       500
CasFlashMinMakeTime:    300
CasFlashMaxMakeTime:    900
```


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Related Commands

Command	Description
addxgcppersistevt	Adds persistent xGCP events.
cnfcasdialdelay	Configures the VISM wait time (dial delay) for outpulsing digits to the PBX after sending an off-hook event.
cnfcasflashtime	Configures the minimum and maximum CAS on-hook time periods for incoming flash hooks on a specified endpoint.
cnfcasglareattrib	Configures the direction of CAS calls and the glare policy for a specified endpoint.
cnfcasguardtime	Configures the CAS guard time for an endpoint.
cnfcasoffhooktime	Configures a minimum presence time, on an endpoint, for a CAS off-hook pattern to be recognized as an off-hook signal.
cnfcasonhooktime	Configures a minimum presence time, on an endpoint, for a CAS on-hook pattern to be recognized as an on-hook signal.
cnfcaspackage	Configures MGCP packages to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
dspcasglareattrib	Displays the direction of CAS calls and the glare policy for a specified endpoint.
dspcaspackage	Displays the MGCP packages configured to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.

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dspcasvar

To display data about channel associated signaling (CAS) variants for a given variant name, use the **dspcasvar** command in the VoIP switching/trunking operating mode.

dspcasvar *var-name*

Syntax Description

var-name	Name of the CAS variant; a text string of 1 to 64 alphanumeric characters.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command

Examples

The following example shows that the CAS variant data for the CAS variant identified by the name first is displayed:

```
dspcasvar first

CasVariantName:         first
CasFileName:            wink.dod
Ringing time:           30
Digit method:           DTMF
Partial dial timing:    16
Critical dial timing:   4
Interdigit timeout:     1
CasVariantState:        configured
CasRowStatus:           Add
Country code:           US
```

Related Commands

Command	Description
addcasvar	Adds a CAS variant to a VISM card.
cnfcasvar	Configures CAS variant and CAS timing parameters for a variant already created with the **addcasvar** command.
delcasvar	Deletes a CAS variant.

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dspcasvarendpts

To display all endpoints associated with a specified channel associated signaling (CAS) variant name, use the **dspcasvarendpts** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating mode.

dspcasvarendpts *var-name*

Syntax Description

var-name	Name of the CAS variant; a text string of 1 to 64 alphanumeric characters.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the endpoints associated with the var1 CAS variant are displayed:

```
dspcasvarendpts var1
```

Related Commands

Command	Description
dspcasendpts	Displays data about configured CAS endpoints.

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dspcasvars

To display the parameters of all channel associated signaling (CAS) variants configured on a VISM card, use the **dspcasvars** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcasvars

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

This command displays the following data for each CAS variant:

- Variant name
- File name
- Digit method
- Country code

Examples

The following example shows that the parameters of all configured CAS variants are displayed for the current VISM card:

```
dspcasvars

VariantName              FileName     DigitMethod      CountryCode
-----------              --------     -----------      -----------
      first              wink.dod           DTMF        US
     second              ring.dod           DTMF        US
```

Related Commands

Command	Description
addcasvar	Adds a CAS variant to a VISM card.
cnfcasvar	Configures CAS variant and CAS timing parameters for a variant already created with the **addcasvar** command.
delcasvar	Deletes a CAS variant.
dspcasvar	Displays information about CAS variants for a given variant name.

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dspcasxgcps

To display timer parameters for the channel associated signaling/gateway control protocol (CAS/xGCP) backhaul, use the **dspcasxgcps** command in the VoIP switching/trunking operating mode.

dspcasxgcps

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the CAS/xGCP backhaul timer parameters are displayed:

```
dspcasxgcps

VariantName          FileName     ReXmitTime      InitReXmitTime   Retry
-----------          --------     ----------      --------------   -----
     first            wink.dod          500         100             4
    second            ring.dod          500         100             4
```

Related Commands

There are no related commands.

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dspccs

To display the configuration data of a previously added common channel signaling (CCS) channel, use the **dspccs** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspccs *line-num ds0-num*

Syntax Description

line-num	Line number of the previously added CCS channel in the range from 1 to 8.
ds0-num	DS0 number of the previously added CCS channel. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data of the CCS channel identified by line number 1 and DS0 number 10 are displayed:

```
dspccs 1 10

ds0IfIndex:    10
RowStatus:     active
LcnNum:        36
MaxFrameSize:  300
```

Related Commands

Command	Description
addccs	Adds a CCS channel (D channel) to a VISM card.
delccs	Deletes the association between a CCS (DS0) channel and its corresponding virtual channel.
dspccschans	Displays all CCS configured channels.

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dspccschans

To display all channels that are configured as common channel signaling (CCS) channels, use the **dspccschans** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspccschans

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that all CCS configured channels are displayed:

```
dspccschans

ds0 If      Row     Lcn      Max Frame
Index     Status    Num        Size
-------   ------   -----   ------------
10       active    36         300
```

Related Commands

Command	Description
addccs	Adds a CCS channel (D channel) to a VISM card.
delccs	Deletes the association between a CCS (DS0) channel and its corresponding virtual channel.
dspccs	Displays the configuration data of a previously added CCS channel.

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dspccscnt

To display the common channel signaling (CCS) counter values for a specified line and DS0, use the **dspccscnt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspccscnt *line-num ds0-num*

Syntax Description

line-num	Line number for which you want to display the CCS counter values. It can be in the range from 1 to 8.
ds0-num	DS0 number of which you want to display the CCS counter values. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the CCS counter values for line number 1, DS0 10 are displayed:

```
dspccscnt 1 10

ds0IfIndex:          10
TxFrameCount:        0
RxFrameCount:        0
RxCRCErrorCount:     0
RxBufOverflowCount:  0
TxUnderflowCount:    0
TxAbortCount:        0
RxAbortCount:        0
```

Related Commands

There are no related commands.

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dspcd

To display the current VISM card's configuration, status, and hardware and firmware configuration data, use the **dspcd** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcd

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

The VISM card configuration data displayed includes serial number and hardware and firmware revision levels.

Examples

The following example shows that the current VISM card configuration data is displayed:

```
dspcd

ModuleSlotNumber:          17
  FunctionModuleState:       Active
  FunctionModuleType:        VISM-8T1
  FunctionModuleSerialNum:   xxxxxxxxxx
  FunctionModuleHWRev:       0.0
  FunctionModuleFWRev:       1.5.0_11Nov01_2
  FunctionModuleResetReason: ?
  LineModuleType:            LM-RJ48-8T1
  LineModuleState:           Present
  mibVersionNumber:          21
  configChangeTypeBitMap:    CardCnfChng, LineCnfChng
  pcb part no - (800 level): 800-xxxxx-xx
  pcb part no - (73 level):  73-xxxxx-xx
  Fab Part no - (28 level):  28-xxxxx-xx
  PCB Revision:              08

Daughter Card Information:
  Daughter Card Serial Number: xxxxxxxxxxx
  pcb part no - (73 level):    73-xxxxx-xx
  Fab Part no - (28 level):    28-xxxxx-xx
  PCB Revision:                04
```

Related Commands

Command	Description
dspcds	Displays a list of chassis card types, with associated slot numbers, card status, alarm status, and redundancy status.
version	Displays version-related information for a VISM card.

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dspcds

To display a list of chassis card types, with associated slot numbers, card status, alarm status, and redundancy status, use the **dspcds** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcds

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the list of chassis card types, with associated status data, are displayed:

```
dspcds

Slot   CardState   CardType    CardAlarm   Redundancy
----   ---------   --------    ---------   ----------
1.1    Empty                   Clear
1.2    Active       VISM-8T1   Clear
.
.
.
1.32   Active       VISM-8E1   Clear
```

Related Commands

Command	Description
dspcd	Displays the current VISM card's configuration, status, and hardware and firmware configuration data.
version	Displays version-related information for a VISM card.

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dspcid

To display the configuration data of an AAL2 channel identifier (CID) on the current VISM card, use the **dspcid** command in the switched AAL2 PVC and AAL2 trunking operating modes.

dspcid *lcn cid-num*

Syntax Description

lcn	The logical channel number of the LCN/CID pair in the range from 131 to 510.
cid-num	The channel identification number of the LCN/CID pair in the range from 8 to 255.

Command Modes

Switched AAL2 PVC and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data of the AAL2 CID identified by LCN 131 and CID 101 is displayed:

```
dspcid 131 101

LCN number :          131
    CID number:           101
    Endpoint number :     1
    CidRowStatus:         active
    Type3redundancy:      enabled
    VAD:                  enabled
    VADInitTimer:         250
    Profile type:         ITU
    Profile number:       2
    Codec type:           G.711u
    Cas transport:        enabled
    DTMF transport:       enabled
    Ecan on/off:          enabled
    ICS enable:           Disabled
    pkt period:           5
    Cid state:            Active
```

Related Commands

Command	Description
addcid	Adds an AAL2 CID on a VISM card.
delcid	Deletes the association between an endpoint and an LCN/CID pair.
dspcids	Displays all AAL2 CIDs for a specified LCN on a VISM card.

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dspcids

To display all AAL2 channel identifiers (CIDs) for an LCN on the current VISM card, use the **dspcids** command in the switched AAL2 PVC and AAL2 trunking operating modes.

dspcids *lcn*

Syntax Description

lcn	Logical channel number of the LCN for which you want to display AAL2 CIDs. It can be in the range from 131 to 510.

Command Modes

Switched AAL2 PVC and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the AAL2 CIDs are displayed for LCN 132:

```
dspcids 132

lcn CID Endpt  Cid    Type3      VAD   Prof  Prof   Codec   Cas  DTMF
Num Num  Num  Status Redun VAD Timer Type  Num   Type    Tran Tran Ecan
--- --- ----- ------ ----- --- ----- ------ ---- --------- ---- ---- ----
132   9    1  active  ena  ena   250    ITU   1    G.711u  ena  ena  ena
```

Related Commands

Command	Description
addcid	Adds an AAL2 CID on a VISM card.
delcid	Deletes the association between an endpoint and an LCN/CID pair.
dspcid	Displays the configuration data of an AAL2 CID on the current VISM card.

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dspco4timer

To display the bearer continuity test CO4 timer value, use the **dspco4timer** command in the VoIP switching/trunking operating mode.

dspco4timer

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the bearer continuity test CO4 timer is set at 1000 ms:

```
dspco4timer

CO4 timer value:   1000
```

Related Commands

Command	Description
cnfco4timer	Configures the bearer continuity test CO4 timer value.
dspvismparam	Displays the current VISM card configuration.

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dspcodecjtrdelays

To display the configured codec jitter delay modes and associated jitter initial delays, use the **dspcodecjtrdelays** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcodecjtrdelays

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configured codec jitter delay modes and associated jitter initial delays are displayed:

```
dspcodecjtrdelays

Codec   JitterDelayMode   JitterInitialDelay
-----   ---------------   ------------------
G7.11u  fixed             100
.
.
.
```

Related Commands

Command	Description
cnfcodecjtrdelay	Configures the jitter delay mode and initial delay value for a specified codec.

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dspcodecparams

To display codec parameters, use the **dspcodecparams** command in the VoIP switching/trunking operating mode.

dspcodecparams

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

The following data, codec parameters, are displayed when you use this command:

- Codec type
- xGCP codec string
- Packetization period
- Preference
- IANA registered codec type

Note Because the preference of any codec can be configured regardless of the current codec template, all codecs displayed by this command may not be available in the current codec template.

Examples

The following example shows that the codec parameters are displayed:

```
dspcodecparams

codecType    codecString   pktPeriod (ms)   Preference   ianaCodecType
-------------  -----------   --------------   -----------  -------------
1 - G.711u            PCMU          10               7            0
2 - G.711a            PCMA          10               8            8
3 - G.726-32K     G.726-32          10               5            2
4 - G.729a           G729a          10               2           96
5 - G.729ab         G729ab          10               1           96
6 - clr chan           CCD          10               9           96
7 - G.726-16K     G.726-16          10               3           96
8 - G.726-24K     G.726-24          10               4           96
9 - G.726-40K     G.726-40          10               6           96
```

Related Commands

Command	Description
cnfcodectmpl	Assigns a codec template to a VISM card.
dspcodectmpls	Displays all entries in the codec template table.

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dspcodectmpls

To display all entries in the codec template table, use the **dspcodectmpls** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcodectmpls

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

VISM maintains a table of codec templates; each entry in the table contains the following:

- Codec template number
- Codecs supported
- Maximum number of DS0s supported by the template

Examples

The following example shows that all entries in the codec template table are displayed:

```
dspcodectmpls

codecTemplateNumber   codecSupported   MaxChanCount
-------------------   --------------   ------------
        1                   0x1ff           145
        2                   0x23            192
        3                   0x1ff           120
```

Related Commands

Command	Description
cnfcodectmpl	Assigns a codec template to a VISM card.
dspcodecparams	Displays codec parameters.

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dspcon

To display the configuration data of a channel, use the **dspcon** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcon *lcn*

Syntax Description

lcn	Logical channel number for which to display configuration data. It can be in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data for LCN 136 is displayed:

```
dspcon 136

ChanNum:                  136
ChanRowStatus:            Add
ChanLocalRemoteLpbkState: Disabled
ChanTestType:             TestOff
ChanTestState:            NotInProgress
ChanRTDresult:            65535 ms
ChanPortNum:              1
ChanPvcType:              AAL5
ChanConnectionType:       PVC
ChanLocalVpi:             0
ChanLocalVci:             36
ChanLocalNSAP:            646174616d76723200000000000000005000100
ChanRemoteVpi:            44
ChanRemoteVci:            44
ChanRemoteNSAP:           646174616d76723200000000000000000000200
ChanMastership:           Master
ChanVpcFlag:              Vcc
ChanConnServiceType:      CBR
ChanRoutingPriority:      1
ChanMaxCost:              255
ChanRestrictTrunkType:    No Restriction
ChanConnPCR:              400
ChanConnPercentUtil:      100
ChanPreference:           1
ChanRemotePCR:            400
ChanRemotePercentUtil:    100
ChanProtection:           unprotected
ChanActivityState:        unknown
ChanLockingState:         unlock
ChanApplication:          signaling
ChanServiceType:          cbr
ChanScrIngress:           0
ChanMbsIngress:           0
ChanNumNextAvailable:     137
ChanVCCI:                 0
```


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```
ChanFarEndAddrType:         notapplicable
ChanFarEndE164Addr:         0
ChanFarEndGWIDAddr:         .
ChanFarEndNSAPAddr:         NULL NSAP
```

Related Commands

Command	Description
addcon	Adds a PVC connection between a VISM card and any SM or PXM card.
delcon	Deletes a connection (PVC) between a VISM card and a Cisco MGX 8000 Series platform PXM card.

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dspconcac

To display connection admission control (CAC) configuration data for a connection, use the **dspconcac** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspconcac *lcn*

Syntax Description

lcn	Logical channel number for which to display CAC configuration data. It can be in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the CAC configuration data for LCN 131 is displayed:

```
dspconcac 131

LCN                    : 131
MasterShip             : Master
Vad Tolerance          : 100
Vad Duty Cycle         : 61
Rejecton Policy        : 3
Carrier Loss Policy    : 3
Accepted Connections   : 24
Rejected Connections   : 0
Effective Cell Rate    : 6000 cps
Used      Cell Rate    : 3200 cps
Available Cell Rate    : 2800 cps
```

Related Commands

Command	Description
cnfconcac	Configures CAC on a previously added connection.

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dspconcnt

To display counter configuration data (channel state) of a connection, use the **dspconcnt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspconcnt *lcn*

Syntax Description

lcn	Logical channel number for which to display counter configuration data. It can be in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the counter configuration data for LCN 136 is displayed:

```
dspconcnt 136

ChanNum:                        136
Chan State:                     alarm
Chan XMT ATM State:             Sending AIS OAM
Chan RCV ATM State:             Receiving AIS OAM
Chan Status Bit Map:            0x6
OAM Lpb Lost Cells:             75599
AAL2 HEC Errors:                0
AAL2 CRC Errors:                0
AAL2 Invalid OSF Cells:         0
AAL2 Invalid Parity Cells:      0
AAL2 CPS Packet Xmt:            0
AAL2 CPS Packet Rcv:            0
AAL2 Invalid CID CPS:           0
AAL2 Invalid UUI CPS:           0
AAL2 Invalid Len. CPS:          0
AAL5 Invalid CPI:               0
AAL5 oversized SDU PDU:         0
AAL5 Invalid Len. PDU:          0
AAL5 PDU CRC32 Errors:          0
```

Related Commands

Command	Description
addcon	Adds a PVC connection between a VISM card and any SM or PXM card.
delcon	Deletes a connection (PVC) between a VISM card and a Cisco MGX 8000 Series platform PXM card.

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dspcons

To display channel configuration data for all configured connections on a VISM card, use the **dspcons** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspcons

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that channel configuration data for all connections on the current VISM card are displayed:

```
dspcons

ConnId      ChanNum Status  Preference  Protection     Active    Locking
-------     ------- ------  ----------  ----------     -------   --------
datamvr2.5.1.0.135   135    Add         1  unprotected  unknown  unlock
datamvr2.5.1.0.136   136    Add         1  unprotected  unknown  unlock

ChanNumNextAvailable:  137
```

Related Commands

Command	Description
addcon	Adds a PVC connection between a VISM card and any SM or PXM card.
cnfcon	Configures a connection between a VISM card and a Cisco MGX 8000 Series platform PXM card.
dspcon	Displays the parameters for a specified channel.

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dspconvbdpol

To display fax/modem upspeed, connection admission control (CAC) failure, and fax/modem carrier loss policies for calls added to a particular IP or AAL2 logical channel number (LCN), use the **dspconvbdpol** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspconvbdpol

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the voiceband data policies for LCN 131 are displayed:

```
dspconvbdpol 131

LcnNumer:               131
ChanCarrierLossPolicy:  upspeedCodec
ChanCacRejectionPolicy: delete
```

Related Commands

Command	Description
cnfconvbdpol	Configures the policies for fax/modem upspeed CAC failure and fax/modem carrier loss for calls added to a particular IP or AAL2 LCN.

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dspdisctimers

To display the Restart in Progress command disconnect type method wait delay times, use the **dspdisctimers** command in the VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC operating modes.

dspdisctimers

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the Restart in Progress command disconnect type method wait delay times are displayed:

```
dspdisctimers

Initial Waiting Delay: 15secs
Min Waiting Delay:     15 secs
Nax Waiting Delay:     600 secs
```

Related Commands

Command	Description
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfdisctimers	Specifies the wait delay times for the disconnected procedure, restart in progress command—initial, minimum, and maximum timer values.
cnfmgcgrpprotocol	Configures call agent group protocol data.
cnfxgcppeer	Configures the UDP port number used to send gateway-initiated messages to the call agent.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.

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dspdnallips

To display all statistically provisioned IP addresses and externally resolved IP addresses for all domain names configured on the current VISM card, use the **dspdnallips** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspdnallips

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that all statistically provisioned IP addresses and externally resolved IP addresses for all domain names configured on the current VISM card are displayed:

```
dspdnallips


ResolutionIndex  DomainName         IP          Preference
---------------  ----------   ---------------   ----------
      2          callagent99  nnn.nnn.nnn.nnx        1
      45         callagent99  nnn.nnn.nnn.nxn        3
      70         callagent99  nnn.nnn.nnn.xnn        4
      1          dns          nnn.nnn.nnx.nnn        1
```

Related Commands

Command	Description
adddn	Adds a domain name (call agent name) and optionally configures the resolution type of the domain name.
adddnip	Adds the IP addresses for a domain name that you added by using the **adddn** command.
cnfdn	Configures the resolution type of a specified domain name.
cnfdnssrvr	Designates a domain name as a DNS.
deldn	Deletes a domain name.
deldnip	Deletes a statistically provisioned IP address of a domain name.
dspdnips	Displays all statistically provisioned and externally resolved IP addresses configured for a specified domain name.
dspdns	Displays the configuration data of all domain names of a call agent.
dspdnssrvr	Displays the domain name of the configured DNS of the current VISM card.

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dspdnips

To display all statistically provisioned and externally resolved IP addresses configured for a specified domain name, use the **dspdnips** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspdnips *domain-name*

Syntax Description

domain-name	Call agent name. A text string of 1 to 64 alphanumeric characters.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that all statistically provisioned and externally resolved IP addresses configured for domain name callagent99 are displayed:

```
dspdnips callagent99

ResolutionIndex  DomainName          IP           Preference
---------------  ----------   ---------------   ----------
      2          callagent99  nnn.nnn.nnn.nnx         1
      45         callagent99  nnn.nnn.nnn.nxn         3
      70         callagent99  nnn.nnn.nnn.xnn         4
```

Related Commands

Command	Description
adddn	Adds a domain name (call agent name) and optionally configures the resolution type of the domain name.
adddnip	Adds the IP addresses for a domain name that you added by using the **adddn** command.
cnfdn	Configures the resolution type of a specified domain name.
cnfdnssrvr	Designates a domain name as a DNS.
deldn	Deletes a domain name.
deldnip	Deletes a statistically provisioned IP address of a domain name.
dspdnallips	Displays all statistically provisioned IP addresses and externally resolved IP addresses for all domain names configured on the current VISM card.
dspdns	Displays the configuration data of all domain names of a call agent.
dspdnssrvr	Displays the domain name of the configured DNS of the current VISM card.

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dspdns

To display the configuration data of all domain names of a call agent, use the **dspdns** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspdns

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data of the mgc1 domain name are displayed:

```
dspdns

DomainNumber  DomainName      IP          State   Preference  Resolution Type
------------  ----------  -----------  -----   ----------  ---------------
      1          mgc1     nn.nn.nn.nn  Active       1        internal only
```

Related Commands

Command	Description
adddn	Adds a domain name (call agent name) and optionally configures the resolution type of the domain name.
adddnip	Adds the IP addresses for a domain name that you added by using the **adddn** command.
cnfdn	Configures the resolution type of a specified domain name.
cnfdnssrvr	Designates a domain name as a DNS.
deldn	Deletes a domain name.
delnip	Deletes a statistically provisioned IP address of a domain name.
dspdnallips	Displays all statistically provisioned IP addresses and externally resolved IP addresses for all domain names configured on the current VISM card.
dspdnips	Displays all statistically provisioned and externally resolved IP addresses configured for a specified domain name.
dspdnssrvr	Displays the domain name of the configured DNS of the current VISM card.

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dspdnssrvr

To display the domain name of the configured domain name server (DNS) of the current VISM card, use the **dspdnssrvr** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspdnssrvr

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configured DNS of the current VISM card is callagent99:

```
dspdnssrvr

External DNS Server Domain Name: callagent99
```

Related Commands

Command	Description
adddn	Adds a domain name (call agent name) and optionally configures the resolution type of the domain name.
adddnip	Adds the IP addresses for a domain name that you added by using the **adddn** command.
cnfdn	Configures the resolution type of a specified domain name.
cnfdnssrvr	Designates a domain name as a DNS.
deldn	Deletes a domain name.
deldnip	Deletes a statistically provisioned IP address of a domain name.
dspdnallips	Displays all statistically provisioned IP addresses and externally resolved IP addresses for all domain names configured on the current VISM card.
dspdnips	Displays all statistically provisioned and externally resolved IP addresses configured for a specified domain name.
dspdns	Displays the configuration data of all domain names of a call agent.

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dspdpvcoamparams

To display the transmitted and received permanent virtual circuit (PVC) operations, administration, and maintenance (OAM) cell parameters, use the **dspdpvcoamparams** command in the VoIP switching/trunking operating mode.

dspdpvcoamparams

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the transmitted and received PVC OAM cell parameters are displayed:

```
dspdpvcoamparams

OAM Cell Gap           : 500ms
OAM Cell Retry Count   : 3
OAM Cell Recovery Count: 5
```

Related Commands

Command	Description
cnfdpvcoamparams	Configures the transmitted and received PVC OAM cell parameters.

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dspds0gain

To display the adjustable gain values for a specified DS0, use the **dspds0gain** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspds0gain *line-num ds0-num*

Syntax Description

line-num	Line number of the DS0 for which you want to display the adjustable gain. In the range from 1 to 8.
ds0-num	DS0 number on which to display adjustable gain. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the adjustable gain values for DS0 1 are displayed:

```
dspds0gain 2 1

Line Number       : 2
Ds0 Number        : 1
InputGain         : 0
Output Attenuation: 60
```

Related Commands

Command	Description
cnfds0gain	Configures the adjustable gain for a specified DS0.
cnfgain	Configures the adjustable gain for a VISM card.
cnflngain	Configures the adjustable gain for all DS0s on a specified VISM card line.
dspgain	Displays the adjustable gain for a specified VISM card.
dsplngain	Displays the adjustable gain for a specified VISM card line.

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dspds0localcasstatus

To display the currently configured local channel associated signaling (CAS) status for a specified line and DS0, use the **dspds0localcasstatus** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspds0localcasstatus *line-num ds0-num*

Syntax Description

line-num	Line number of the channel for which you want to display the currently local CAS status. It can be in the range from 1 to 8.
ds0-num	DS0 number of the channel for which you want to display the currently local CAS status. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the currently configured local CAS status for line number 1, DS0 number 1 is displayed:

```
dspds0localcasstatus 1 1

ds1 line number:                  1
ds0 number:                       1
ds0 If Index:                     1
local cas type:                   Disabled
local cas 4 bit bit pattern:      0
```

Related Commands

Command	Description
cnfds0localcas	Configures a local CAS 4-bit pattern for a T1 line and DS0.

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dspds0loop

To display the loopback type for a specified line and DS0, use the **dspds0loop** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspds0loop *line-num ds0-num*

Syntax Description

line-num	Line number of the channel for which you want to display the loopback type. It can be in the range from 1 to 8.
ds0-num	DS0 number of the channel for which you want to display the loopback type. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the loopback type for line number 1, DS0 number 1 is displayed:

```
dspds0loop 1 1

ds1 line number:                    1
ds0 number:                         1
ds0 If Index:                       1
loopback value:                     noLoop
```

Related Commands

There are no related commands.

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dspds0musicthreshold

To display the music on-hold threshold value for a specified DS0, use the **dspds0musicthreshold** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspds0musicthreshold *line-num ds0-num*

Syntax Description

line-num	Line number of the channel for which you want to display the DS0 music on-hold threshold value. It can be in the range from 1 to 8.
ds0-num	DS0 number for which you want to display the music on-hold threshold value. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the VISM card line number 1, DS0 number 1 displays the –50 dB music on-hold threshold configuration value:

```
dspds0musicthreshold 1 1

Line Number   : 1
Ds0 Number    : 1
MusicThreshold: -50
```

Related Commands

Command	Description
cnfds0musicthreshold	Configures the music on-hold threshold for a specified DS0.
cnflnmusicthreshold	Configures the music on-hold threshold for all DS0s on a specified line.
cnfmusicthreshold	Configures the music on-hold threshold value for the current VISM card.
dsplnmusicthreshold	Displays the music on-hold threshold values for the DS0s on a specified line.
dspmusicthreshold	Displays the music on-hold threshold values for the current VISM card.

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dspendpt

To display configuration data of a specified VISM card endpoint, use the **dspendpt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspendpt *endpt-num*

Syntax Description

endpt-num Endpoint number. It can be a value from one of the following ranges:

- For template number 1:
  - For VISM, from 1 to 145
  - For VISM-PR T1, from 1 to 192
  - For VISM-PR E1, from 1 to 248
- For template number 2:
  - For VISM T1, from 1 to 192
  - For VISM E1, from 1 to 248
- For template number 3:
  - For VISM, from 1 to 120
  - For VISM-PR T1, from 1 to 192
  - For VISM-PR E1, from 1 to 248
- For template number 4:
  - For VISM-PR, from 1 to 144

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data of endpoint number 120 is displayed:

```
dspendpt 120

EndptNum:        120
EndptLineNum:    1
EndptName:       T1-1/1@cisco.com
EndptSpeed:      64 kbps
EndptState:      active
EndptChannelMap: 1
EndptEnable:     active
EndptLoopback:   disabled
```

Note The EndptChannelMap value is represented by a hexadecimal number, where each DS0 is a power of 2—EndptChannelMap = $2^{\text{DS0 number}}$.

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Related Commands

Command	Description
addendpt	Adds an endpoint on a VISM card.
delendpt	Deletes a specified endpoint on a VISM card.
dspendpts	Displays information about all endpoints on a VISM card.

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dspendpts

To display configuration data about all endpoints on a VISM card, use the **dspendpts** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspendpts

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data for all endpoints on the current VISM card are displayed:

```
dspendpts

EndptNum  Ena/Speed
--------  --- -----
1         act/  64k
2         act/  64k
3         act/  64k
```

Related Commands

Command	Description
addendpt	Adds an endpoint on a VISM card.
addendpts	Adds multiple consecutive numbers of endpoints to a VISM card.
delendpt	Deletes a specified endpoint on a VISM card.
dspendpt	Displays configuration data about a VISM card endpoint.

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dspgain

To display the adjustable gain for a specified VISM card, use the **dspgain** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspgain

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the adjustable gain values for the current VISM card are displayed:

```
dspgain

LineNo/Ds0No  InputGain  OutputAttenuation
------------  ---------  -----------------
1/1           0          100
1/2           10         60
.
.
.
```

Related Commands

Command	Description
cnfds0gain	Configures the adjustable gain for a specified DS0.
cnfgain	Configures the adjustable gain for a VISM card.
cnflngain	Configures the adjustable gain for all DS0s on a specified VISM card line.
dspds0gain	Displays the adjustable gain values for a specified DS0.
dsplngain	Displays the adjustable gain for a specified VISM card line.

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dspgwstate

To display the current user-configured service state of the gateway, use the **dspgwstate** in the VoIP switching/trunking operating mode.

dspgwstate

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

The following possible states are displayed by this command:

- Admin States:
  - In service
  - Command out of service
  - Pending out of service
- Operational States:
  - Alarm
  - OK

Examples

The following example shows that the user-configured gateway service states—the command out of service administration state and the alarm operational state—are displayed:

```
dspgwstate

Admin State : Command_Out_Of_Service
Oper. State : Alarm
```

Related Commands

There are no related commands.

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dsplapd

To display configuration data about a Link Access Protocol D channel (LAPD), use the **dsplapd** command in the VoIP switching/trunking operating mode.

dsplapd *line-num ds0-num*

Syntax Description

line-num	Line number of the channel for which you want to display the LAPD configuration data. It can be in the range from 1 to 8.
ds0-num	DS0 number of the channel for which you want to display the LAPD configuration data. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the LAPD configuration data is displayed for line number 1, DS0 number 1:

```
dsplapd 1 1

vismRudpSessionStatNum:          1
vismRudpSessionAutoResets:       0
vismRudpSessionRcvdAutoResets:   0
vismRudpSessionRcvdInSeqs:       0
vismRudpSessionRcvdOutSeqs:      0
vismRudpSessionSentPackets:      5
vismRudpSessionRcvdPackets:      0
vismRudpSessionSentBytes:        0
vismRudpSessionRcvdBytes:        0
vismRudpSessionDataSentPkts:     0
vismRudpSessionDataRcvdPkts:     0
vismRudpSessionDiscardPkts:      0
Trunk type:                      Backhaul
```

Related Commands

Command	Description
addlapd	Adds an LAPD.
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.

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Command	Description
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapd	Deletes an LAPD.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapds	Displays configuration data about all LAPDs.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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dsplapds

To display configuration data about all Link Access Protocol for ISDN D channels (LAPDs), use the **dsplapds** command in the VoIP switching/trunking operating mode.

dsplapds

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data for all LAPDs is displayed:

```
dsplapds

Line number   DS0 number   Lapd Application Type
-----------------------------------------------
     1            1               PRI
```

Related Commands

Command	Description
addlapd	Adds an LAPD.
dellapd	Deletes an LAPD.
dsplapd	Displays configuration data about an LAPD.

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dsplapdstat

To display configuration data about Link Access Protocol for ISDN D channel (LAPD) statistics (counters) for a specific line and DS0, use the **dsplapdstat** command in the VoIP switching/trunking operating mode.

dsplapdstat *line-num ds0-num*

Syntax Description

line-num	Line number of the channel for which you want to display the LAPD statistics. It can be in the range from 1 to 8.
ds0-num	DS0 number of the channel for which you want to display the LAPD statistics. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the LAPD statistic configuration data for line number 1, DS0 number 1 are displayed:

```
dsplapdstat 1 1

vismLapdStatsIndex:          1
vismLapdRxInfoFrames:        0
vismLapdTxInfoFrames:        0
vismLapdRxReadyFrames:       0
vismLapdTxReadyFrames:       0
vismLapdRxNotReadyFrames:    0
vismLapdTxNotReadyFrames:    0
vismLapdRxSABMFrames:        0
vismLapdTxSABMFrames:        0
vismLapdRxDisconFrames:      0
vismLapdTxDisconFrames:      0
vismLapdRxUAFrames:          0
vismLapdTxUAFrames:          0
vismLapdRxDiscModeFrames:    0
vismLapdTxDiscModeFrames:    0
vismLapdRxFrmRejectFrames:   0
vismLapdTxFrmRejectFrames:   0
vismLapdRxExchIdFrames:      0
vismLapdTxExchIdFrames:      0
vismLapdRxUnumInfoFrames:    0
vismLapdTxUnumInfoFrames:    0
vismLapdRxRejectFrames:      0
vismLapdTxRejectFrames:      0
vismLapdRxInvalidFrames:     0
```


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Related Commands There are no related commands.

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dsplapdtrunkpvc

To display the assigned permanent virtual circuit (PVC) trunk type that carries Link Access Protocol D channel (LAPD) trunk messages for the current VISM card, use the **dsplapdtrunkpvc** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dsplapdtrunkpvc

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the control PVC trunk type carries LAPD trunk messages for the current VISM card:

```
dsplapdtrunkpvc

Lapd Trunk PVC Carrier: Control
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.

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Command	Description
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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dsplapdtrunks

To display the data of all Link Access Protocol D channel (LAPD) configured trunks, use the **dsplapdtrunks** command in the VoIP switching/trunking operating mode.

dsplapdtrunks

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that all LAPD configuration data of the current VISM card trunks are displayed:

```
dsplapdtrunks

Trunk Num State Session Number
--------- ----- --------------
    1      Oos        1
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.

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Command	Description
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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dsplinecasbits

To display the currently transmitted and received channel associated signaling (CAS) bit values for all the endpoints on a VISM card line, use the **dsplinecasbits** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dsplinecasbits *line-num*

Syntax Description

line-num	Line number for which you want to display the CAS bit values. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the currently transmitted and received CAS bits of line number 1 are displayed:

```
dsplinecasbits 1

DS0     Tx to TDM    Rx fr TDM
-------A-B-C-D-----A-B-C-D
 1      0 0 0 0      0 0 0 0
 2      0 0 0 0      0 0 0 0
 3      0 0 0 0      0 0 0 0
 4      0 0 0 0      0 0 0 0
 5      0 0 0 0      0 0 0 0
 6      0 0 0 0      0 0 0 0
 7      0 0 0 0      0 0 0 0
 8      0 0 0 0      0 0 0 0
 9      0 0 0 0      0 0 0 0
10      0 0 0 0      0 0 0 0
11      0 0 0 0      0 0 0 0
12      0 0 0 0      0 0 0 0
13      0 0 0 0      0 0 0 0
14      0 0 0 0      0 0 0 0
15      0 0 0 0      0 0 0 0
16      0 0 0 0      0 0 0 0
17      0 0 0 0      0 0 0 0
18      0 0 0 0      0 0 0 0
19      0 0 0 0      0 0 0 0
20      0 0 0 0      0 0 0 0
21      0 0 0 0      0 0 0 0
22      0 0 0 0      0 0 0 0
23      0 0 0 0      0 0 0 0
24      0 0 0 0      0 0 0 0
```


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Related Commands

Command	Description
addendpt	Adds an endpoint on a VISM card.
addendpts	Adds a consecutive number of endpoints to a VISM card.
addln	Adds a T1 or E1 line to a VISM card.
cnfcasendpt	Associates an endpoint with a CAS variant.
cnflnsig	Configures the signaling mode for a VISM card line.

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dspln

To display the configuration data of a VISM card line, use the **dspln** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspln *line-num*

Syntax Description

line-num	Line number for which you want to display the configuration data. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data for the current VISM card's line number 1 is displayed:

```
dspln 1

LineNum:                    1
LineConnectorType:          RJ-48
LineEnable:                 Enabled
LineType:                   dsx1ESF
LineCoding:                 dsx1B8ZS
LineLength:                 0-131 ft
LineXmtClockSource:         LocalTiming
LineLoopbackCommand:        NoLoop
LineSendCode:               NoCode
LineUsedTimeslotsBitMap:    0x3ff
LineLoopbackCodeDetection: codeDetectDisabled
LineSignalingType:          CAS
LineCcsChannels:            0x0
LineTrunkConditioning:      disable
LineNumOfValidEntries: 8
```

Note The LineCcsChannels data applies only to the AAL2 trunking operating mode.

Related Commands

Command	Description
addln	Adds a T1 or E1 line to a VISM card.
cnfln	Configures characteristics for a VISM card line.
delln	Deletes a T1 or E1 line from a VISM card.

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dsplncids

To display the channel identification (CID), endpoint, and AAL2 configuration data for a VISM card line, use the **dsplncids** command in the switched AAL2 PVC and AAL2 trunking operating modes.

dsplncids *line-num*

Syntax Description

line-num	Line number for which you want to display the CID, endpoint, and AAL2 configuration data. It can be in the range from 1 to 8.

Command Modes

Switched AAL2 PVC and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the CID, endpoint, and AAL2 configuration data for line 2 are displayed:

```
dsplncids 2

lcn CID Endpt  Cid    Type3     VAD    Prof  Prof   Codec    Cas  DTMF
Num Num  Num  Status Redun VAD Timer  Type  Num    Type    Tran Tran Ecan
--- --- ----- ------ ----- --- ----- ------ ---- --------- ---- ---- ----
33  10    2  active  ena  ena   250    ITU   1    G.711u  ena  ena  ena
```

Note If you configure the codec type as clear for the line number identified by the *line-num* argument, the Type3 Redun, Cas Tran, DTMF Tran, and Ecan values are not applicable.

Related Commands

Command	Description
addcid	Adds an AAL2 CID on a VISM card.

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dsplndigitorder

To display the order in which automatic number identification (ANI) digits—the caller's number—and dialed number identification service (DNIS) digits—the called number—are dialed during an outgoing Feature Group D (FGD) call on the endpoints of a specified VISM card line, use the **dsplndigitorder** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dsplndigitorder *line-num*

Syntax Description

line-num	Line number for which to configure dialed digit order. In the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

The ANI and DNIS digits are sent as part of the MGCP setup message.

Examples

The following example shows that the current VISM card's line number 7 is assigned a digit order of DNIS digits first, followed by ANI digits, for digits dialed during an outgoing FGD call:

```
dsplndigitorder 7

LineNum         : 1
Dsx1TxDigitOrder: aniThenDnis
```

Related Commands

Command	Description
cnfcasflashtime	Configures the minimum and maximum CAS on-hook time periods for incoming flash hooks on a specified endpoint.
cnfcasglareattrib	Configures the direction of CAS calls and the glare policy for a specified endpoint.
cnfcaspackage	Configures MGCP packages to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
cnflndigitorder	Assigns the order in which ANI digits and DNIS digits are dialed during an outgoing FGD call on the endpoints of a specified VISM card line.
delxgcppersistevt	Deletes a persistent xGCP event.
dspcasglareattrib	Displays the direction of CAS calls and the glare policy for a specified endpoint.
dspcaspackage	Displays the MGCP packages configured to notify persistent observed CAS events in the context of incoming and outgoing CAS calls on a specified endpoint.
dspcastimers	Displays the currently configured CAS timers for a specified endpoint.

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dsplndsp

To display the digital signal processor (DSP) data for a specified T1 or E1 line, use the **dsplndsp** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dsplndsp *line-num*

Syntax Description

line-num	Line number for which you want to display the DSP data. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the DSP data for line 1 are displayed:

```
dsplndsp 1

VismLineNum:            1
ECANEnable:             enable
ECANReenable:           ReenableOnModemData
ToneDisable:            G.165
MaximumTail:            32 milliseconds
ResidualEcho:           ComfortNoise
VoiceDetection:         Enable
```

Note VAD and ECAN apply to the VoIP switching/trunking operating mode only.

Related Commands

Command	Description
addln	Adds a T1 or E1 line to a VISM card.
delln	Deletes a T1 or E1 line from a VISM card.

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dsplndsx0s

To display the configuration data of all DS0s on a specified T1 or E1 line, use the **dsplndsx0s** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dsplndsx0s *line-num*

Syntax Description

line-num	Line number for which you want to display all DS0 configuration data. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that all DS0 configuration data for line 1 are displayed:

```
dsplndsx0s 1

ds0 If     Robbed Bit     Idle    Seized    EndPt     If       Variant
Index      Signaling      Code     Code      Num     Type       Name
--------  ------------  ------ -------- ------- ------ -------------
   1          True          0        0       1      bearer
   2          True          0        0       2      bearer
   3          True          0        0       3      bearer
   4          True          0        0       4      bearer
   5          True          0        0       5      bearer
   6         False          0        0      -1      -
   7         False          0        0      -1      -
   8         False          0        0      -1      -
   9         False          0        0      -1      -
  10         False          0        0      -1      -
  11         False          0        0      -1      -
  12         False          0        0      -1      -
  13         False          0        0      -1      -
  14         False          0        0      -1      -
  15         False          0        0      -1      -
  16         False          0        0      -1      -
  17         False          0        0      -1      -
  18         False          0        0      -1      -
  19         False          0        0      -1      -
  20         False          0        0      -1      -
  21         False          0        0      -1      -
  22         False          0        0      -1      -
  23         False          0        0      -1      -
  24         False          0        0      -1      -
```

Note Idle code, seized code and variant name apply to the VoIP switching/trunking operating mode only.

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Related Commands

Command	Description
addln	Adds a T1 or E1 line to a VISM card.
delln	Deletes a T1 or E1 line from a VISM card.

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dsplnendptstatus

To display the status of endpoints for a specified T1 or E1 line, use the **dsplnendptstatus** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating mode.

dsplnendptstatus *line-num*

Syntax Description

line-num	Line number for which you want to display the status of endpoints. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the status for the endpoints on line 1 are displayed:

```
dsplnendptstatus 1

ds0# Endpt#  Codec  VAD  ECAN
------------------------------
1      1     G.711a  ON  ON
```

Related Commands

Command	Description
dspendpts	Displays information about all the endpoints on a VISM card.
dspln	Displays the characteristics of a VISM card line.

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dsplngain

To display the adjustable gain for all DS0s on a specified VISM card line, use the **dsplngain** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dsplngain *line-num*

Syntax Description

line-num	Line number for which you want to display the adjustable gain for all DS0s. In the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the adjustable gain values for all DS0s on VISM card line 3 are displayed:

```
dsplngain 3

Ds0Num  InputGain  OutputAttenuation
------  ---------  -----------------
1       0          100
2       10         60
.
.
.
```

Related Commands

Command	Description
cnflngain	Configures the adjustable gain for all DS0s on a specified VISM card line.

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dsplnmusicthreshold

To display the music on-hold threshold values for the DS0s on a specified line, use the **dsplnmusicthreshold** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dsplnmusicthreshold *line-num*

Syntax Description

line-num	Line number for which you want to display the DS0 music on-hold threshold values. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the DS0s on VISM card line number 3 music on-hold threshold values are displayed:

```
dsplnmusicthreshold 3

Ds0Num  Musicthreshold
------  --------------
1       -38
2       -40
.
.
.
```

Related Commands

Command	Description
cnfds0musicthreshold	Configures the music on-hold threshold for a specified DS0.
cnflnmusicthreshold	Configures the music on-hold threshold for all DS0s on a specified line.
cnfmusicthreshold	Configures the music on-hold threshold value for the current VISM card.
dspds0musicthreshold	Displays the music on-hold threshold value for a specified DS0.
dspmusicthreshold	Displays the music on-hold threshold values for the current VISM card.

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dsplnringback

To display the ringback tone method for a specified line on the current VISM card, use the **dsplnringback** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dsplnringback *line-num*

Syntax Description

line-num	Line number for which you want to display the ringback method. In the range from 1 to 8.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

The ringback tone method is displayed as one of the following:

- Proxy—VISM sends the appropriate packet (NSE, NTE, or AAL2 type 3) for the ringback tone to the originating VISM which generates the ringback tone toward the TDM network.
- Inband—VISM generates the inband ringback tone toward the originating VISM over the packet network and the originating VISM plays the ringback tone.

Examples

The following example shows that the current VISM card line 4 ringback tone method, inband, is displayed:

```
dsplnringback 4

LineNum: 4
Dsx1RemoteRingback: inband
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.

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Command	Description
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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dsplns

To display all line configuration data for the current VISM card, use the **dsplns** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dsplns

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data for all lines on the current VISM card are displayed:

```
dsplns

Line  Conn  Type           Status/Coding  Length       XmtClock  Alarm  Stats
      Type                                            Source           Alarm
----  ----- ------------    ---- -------- ---------    --------  -----  -----
17.1  RJ-48 dsx1ESF         Ena/dsx1B8ZS   0-131 ft      LocalTim  Yes    No
17.2  RJ-48 dsx1ESF         Ena/dsx1B8ZS   0-131 ft      LocalTim  Yes    No
17.3  RJ-48 dsx1ESF         Dis/dsx1B8ZS   0-131 ft      LocalTim
17.4  RJ-48 dsx1ESF         Dis/dsx1B8ZS   0-131 ft      LocalTim
17.5  RJ-48 dsx1ESF         Dis/dsx1B8ZS   0-131 ft      LocalTim
17.6  RJ-48 dsx1ESF         Dis/dsx1B8ZS   0-131 ft      LocalTim
17.7  RJ-48 dsx1ESF         Ena/dsx1B8ZS   0-131 ft      LocalTim  No     No
17.8  RJ-48 dsx1ESF         Ena/dsx1B8ZS   0-131 ft      LocalTim  No     No

LineNumOfValidEntries: 8
```

Related Commands

Command	Description
addln	Adds a T1 or E1 line to a VISM card.
cnfln	Configures line characteristics for a specified line.
delln	Deletes a DS1 line from a VISM card.
dspln	Displays the characteristics of a specified line.

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dsplnstate

To display the service state of specified T1 or E1 line with respect to the xGCP protocol, use the **dsplnstate** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dsplnstate *line-num*

Syntax Description

line-num	Line number for which you want to display the service state. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Service states are expressed as administrative or operational. For each service state there is an actual state and an effective state. The actual states are described in the following list:

- Actual administrative states:
  - In service
  - Pending out of service
  - Command out of service
  - Inactive
  - Invalid state
- Actual operational states:
  - Alarm
  - OK

The effective administrative state is the combination state of the gateway and the line.

The effective operational state is the combination alarm state of the gateway and the line.

Examples

The following example shows that the service states of line 1 are displayed:

```
dsplnstate 1

Line number : 1,  Actual admin. state : Inactive
                   Actual oper.  state : OK

Line number : 1,  Effective admin. state : Inactive
                   Effective oper.  state : OK
```

Related Commands

Command	Description
dspgwstate	Displays the current user-configured service states of the gateway.

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dsplntoneplan

To display the tone plan configuration of a specified VISM card line, use the **dsplntoneplan** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dsplntoneplan *line-num*

Syntax Description

line-num	Line number for which you want to display the tone plan configuration. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the tone plan configuration for the current VISM card line number 8 is displayed:

```
dsplntoneplan 8

LineNum            :8
Dsx1TonePlanRegion :singapore
Dsx1TonePlanVersion:11
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.

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Command	Description
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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dsplntonetimeout

To display the configured timeout periods for all call progress tones of a specified VISM card line, use the **dsplntonetimeout** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dsplntonetimeout *line-num*

Syntax Description

line-num	Line number for which you want to display the configured timeout periods (defined in seconds) for all call progress tones. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that all call progress tones for the current VISM card line number 5 are displayed, in seconds:

```
dsplntonetimeout 5

LineNum:            5
Dsx1RingingTO:      200 seconds
Dsx1RingBackTO:     200 seconds
Dsx1BusyTO:         35 seconds
Dsx1ReorderTO:      35 seconds
Dsx1DialTO:         16 seconds
Dsx1StutterDialTO:  16 seconds
Dsx1OffHookAlertTO: 5 seconds
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.

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Command	Description
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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dsploops

To display all lines and DS0s that are in the loopback condition, use the **dsploops** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dsploops

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the lines and DS0s that are currently in the loopback condition are displayed:

```
dsploops

Line Loopbacks on this card
---------------------------
Line 1: Local Loopback

ds0 loopbacks on this card
--------------------------
Endpoint 1 Loopback Enabled
```

Related Commands

Command	Description
addconloop	Configures a cellbus connection to local loopback condition on a current card.
addendptloop	Places an endpoint in a loopback condition in the TDM direction.

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dspmaxmgcs

To display the maximum number of Media Gateway Controllers (MGCs) that can be configured on the current card, use the **dspmaxmgcs** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspmaxmgcs

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the maximum number of MGCs that can be configured on the current card is displayed:

```
dspmaxmgcs

Maximum number of MGCs: 8
```

Related Commands

There are no related commands.

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dspmgc

To display the configuration data of a specified Media Gateway Control (MGC), use the **dspmgc** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspmgc *mgc-num*

Syntax Description

mgc-num	A number by which the call agent is identified, as displayed by the **dspmgcs** command, in the range from 1 to 8.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data for the MGC identified by the MGC number 1 is displayed:

```
dspmgc 1

mgcNumber                       : 1
mgcName                         : mgc1
```

Related Commands

Command	Description
delmgc	Deletes a call agent from a VISM card.
dspmaxmgcs	Displays the maximum number of MGCs that can be configured on the current card.
dspmgcs	Displays the configuration data of all configured call agents.

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dspmgcgrpparams

To display all configured Media Gateway Control Protocol (MGCP)—call agent—redundancy group parameters, use the **dspmgcgrpparams** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspmgcgrpparams

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that all configured call agent redundancy group parameters are displayed:

```
dspmgcgrpparams

Mgc Grp Num  Com State  State Chg Notification  Priority
-----------  ---------  ----------------------  --------
      1      CommLoss          Enabled             1
```

Related Commands

Command	Description
addmgcgrpentry	Configures call agents as part of an MGC redundancy group and assigns a priority value for a call agent.
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
cnfmgcgrpentry	Modifies the call agent priority level of a call agent within a call agent redundancy group.
cnfsrcppeer	Configures the SRCP parameters when SRCP is the selected protocol for communication between the VISM card and call agent.
cnfsrcppeergrpparam	Modifies the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group.
delmgcgrpentry	Deletes a call agent from a call agent redundancy group.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspmgcgrpprotocols	Displays all configured call agent redundancy group protocols.
dspmgcgrps	Displays all configured call agent redundancy groups.
dspsrcppeergrpparams	Displays the SRCP parameters for all call agent redundancy groups that have SRCP added.

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dspmgcgrpprotocols

To display all configured Media Gateway Control Protocol (MGCP)—call agent—redundancy group protocols, use the **dspmgcgrpprotocols** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspmgcgrpprotocols

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that all configured call agent redundancy group protocols are displayed:

```
dspmgcgrpprotocols

MgcGrp    Prot     Qrntn     Qrntn      Sign            Prov    RspAck     Disc    Cancel
Num       Num      Persist    Def       OnOff           Resp    Attr       Proc    Graceful
-------------------------------------------------------------------------------------------
1      MGCP 0.1   Qrtn    StepDiscard  DelEvtNotPrsnt  NotSend NotSend    Disable  NotSend
1      MGCP 1.0   Qrtn    StepProcess  DelNegEvt       Send    Send       Enable   Send
```

Related Commands

Command	Description
addmgcgrpentry	Configures call agents as part of an MGC redundancy group and assigns a priority value for a call agent.
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
cnfmgcgrpentry	Modifies the call agent priority level of a call agent within a call agent redundancy group.
cnfsrcppeer	Configures the SRCP parameters when SRCP is the selected protocol for communication between the VISM card and call agent.
cnfsrcppeergrpparam	Modifies the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group.
delmgcgrpentry	Deletes a call agent from a call agent redundancy group.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspmgcgrpparams	Displays all configured call agent redundancy group parameters.
dspmgcgrps	Displays all configured call agent redundancy groups.
dspsrcppeergrpparams	Displays the SRCP parameters for all call agent redundancy groups that have SRCP added.

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dspmgcgrps

To display all configured Media Gateway Control Protocol (MGCP)—call agent—redundancy groups, use the **dspmgcgrps** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspmgcgrps

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that all configured call agent redundancy groups are displayed:

```
dspmgcgrps

mgcRedgrpNum mgcNum Preferencee State
------------ ------ ----------- -----
     1         1         1      Inactive
     1         2         2      Inactive
```

Related Commands

Command	Description
addmgcgrpentry	Configures call agents as part of an MGC redundancy group and assigns a priority value for a call agent.
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
cnfmgcgrpentry	Modifies the call agent priority level of a call agent within a call agent redundancy group.
cnfsrcppeer	Configures the SRCP parameters when SRCP is the selected protocol for communication between the VISM card and call agent.
cnfsrcppeergrpparam	Modifies the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group.
delmgcgrpentry	Deletes a call agent from a call agent redundancy group.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspmgcgrpparams	Displays all configured call agent redundancy group parameters.
dspmgcgrpprotocols	Displays all configured call agent redundancy group protocols.
dspsrcppeergrpparams	Displays the SRCP parameters for all call agent redundancy groups that have SRCP added.

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dspmgcs

To display configuration data about all configured call agents—Media Gateway Control (MGC) protocols—use the **dspmgcs** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspmgcs

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data about the currently configured call agents is displayed:

```
dspmgcs

mgcNumber    mgcName
---------    --------
   1           mgc1
```

Related Commands

Command	Description
delmgc	Deletes a call agent from a VISM card.
dspmaxmgcs	Displays the maximum number of MGCs that can be configured on the current card.
dspmgc	Displays the configuration data of a specified configured call agent.

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dspmgprotocols

To display data of all call agent—Media Gateway Control (MGC)—protocols available to VISM, use the **dspmgprotocols** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspmgprotocols

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the call agent protocols available to VISM are displayed:

```
dspmgprotocols

Number      mgProcotol
------      ----------
  1         MGCP 0.1
  2         SGCP 1.1+
  3         SRCP 1.0.2
  4         SRCP 1.5
  5         MGCP 1.0
```

Related Commands

Command	Description
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.

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dspmidcalltimers

To display the configured partial and critical timer values for midcall dual tone multifrequency (DTMF) digit reporting, use the **dspmidcalltimers** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspmidcalltimers

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configured partial and critical timers for midcall DTMF digit reporting are displayed:

```
dspmidcalltimers

LineNum  DTMF Partial Timer  DTMF Critical Timer
-------  ------------------  -------------------
   1             16                   4
   2             20                   4
```

Related Commands

Command	Description
cnfmidcalltimers	Configures the midcall DTMF feature partial and critical timers for a specified VISM card line.

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dspmngcidcnt

To display the managed channel identifier (CID) count for a specified endpoint, use the **dspmngcidcnt** command in the switched AAL2 PVC, and AAL2 trunking operating modes.

dspmngcidcnt *endpt-num*

Syntax Description

endpt-num	The endpoint number for which you want to display the managed CID count. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

Switched AAL2 PVC and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the managed CID counts for endpoint number 1 are displayed:

```
dspmngcidcnt 1

EndptNum:    1
Lcn:         35
Cid:         10
SentPkts:    15277688
RcvdPkts:    0
SentOctets:  654128294
RcvdOctets:  0
LostPkts:    0
Jitter:      0
Latency:     0
```


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Related Commands There are no related commands.

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dspmonecanendpt

To monitor the echo cancellation (ECAN) activity for a specified endpoint, use the **dspmonecanendpt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspmonecanendpt *endpt-num*

Syntax Description

endpt-num	Endpoint number. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the ECAN additivity for endpoint number 190 is monitored:

```
dspmonecanendpt 190
```

Related Commands

Command	Description
cnfendptcadence	Configures cadence (digit tone) times for an endpoint.

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dspmusicthreshold

To display the music on-hold threshold values for the current VISM card, use the **dspmusicthreshold** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspmusicthreshold

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the current VISM card music on-hold threshold values are displayed:

```
dspmusicthreshold

LineNo/Ds0No  Musicthreshold
------------  --------------
1/1           -38
1/2           -50
.
.
.
```

Related Commands

Command	Description
cnfds0musicthreshold	Configures the music on-hold threshold for a specified DS0.
cnflnmusicthreshold	Configures the music on-hold threshold for all DS0s on a specified line.
cnfmusicthreshold	Configures the music on-hold threshold value for the current VISM card.
dspds0musicthreshold	Displays the music on-hold threshold value for a specified DS0.
dsplnmusicthreshold	Displays the music on-hold threshold values for the DS0s on a specified line.

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dspnwcot

To display the status—enabled or disabled—of the gateway-initiated network continuity test configuration for VISM, use the **dspnwcot** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspnwcot

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that VISM is configured for a gateway-initiated network continuity test:

```
dspnwcot

GW Initiated Network COT: On
```

Related Commands

Command	Description
cnfco4timer	Configures the bearer continuity test CO4 timer value.
cnfnwcot	Configures VISM for a gateway-initiated network continuity test.
dspco4timer	Displays the bearer continuity test CO4 timer value.
dspvismparam	Displays the current VISM card configuration.

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dspport

To display configuration data about the virtual port that you created with the **addport** command, use the **dspport** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspport

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data about the virtual port created with the **addport** command is displayed:

```
dspport

vismPortNum:                1
vismPortRowStatus:          add
vismPortSpeed:              50000
vismPortState:              active
```

Related Commands

Command	Description
addport	Adds a virtual port between a VISM and PXM cards.
delport	Deletes a virtual port between a VISM and PXM cards.

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dspprofparams

To display the profile elements and the preference for all profiles, use the **dspprofparams** command in the switched AAL2 PVC and AAL2 trunking operating modes.

dspprofparams

Syntax Description

This command has no arguments or keywords.

Command Modes

Switched AAL2 PVC and AAL2 trunking

Usage Guidelines

When you execute this command, the display includes the default voice and voiceband data profile element which correspond to each supported profile.

Examples

The following example shows that the profile elements and preferences for all profiles are displayed:

```
dspprofparams
- - - - - - - - - - - - - - - - - - - - - - -
Profile Type                          : ITU
Profile Number                        : 1
Profile Preference                    : 4
Voice Profile Codec                   : G.711u
Voice Profile Packetization-period(ms): five
Voice Profile SID                     : VAD on
VBD Profile Codec                     : G.711u
VBD Profile Packetization-period (ms) : five
- - - - - - - - - - - - - - - - - - - - - - -
Profile Type                          : ITU
Profile Number                        : 2
Profile Preference                    : 3
Voice Profile Codec                   : G.711u
Voice Profile Packetization-period(ms): five
Voice Profile SID                     : sidGenric
VBD Profile Codec                     : G.711u
VBD Profile Packetization-period (ms) : five
- - - - - - - - - - - - - - - - - - - - - - -
Profile Type                          : ITU
Profile Number                        : 3
Profile Preference                    : 1
Voice Profile Codec                   : G.726-32K
Voice Profile Packetization-period(ms): five
Voice Profile SID                     : sidGenric
VBD Profile Codec                     : G.711u
VBD Profile Packetization-period (ms) : five
- - - - - - - - - - - - - - - - - - - - - - -
Profile Type                          : ITU
Profile Number                        : 7
Profile Preference                    : 2
Voice Profile Codec                   : G.729ab
Voice Profile Packetization-period(ms): ten
Voice Profile SID                     : sid729
VBD Profile Codec                     : G.711u
VBD Profile Packetization-period (ms) : five
```


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```
- - - - - - - - - - - - - - - - - - - - - - -
Profile Type                          : ITU
Profile Number                        : 8
Profile Preference                    : 5
Voice Profile Codec                   : G.729ab
Voice Profile Packetization-period(ms): ten
Voice Profile SID                     : sid729
VBD Profile Codec                     : G.711u
VBD Profile Packetization-period (ms) : five
- - - - - - - - - - - - - - - - - - - - - - -
Profile Type                          : Custom
Profile Number                        : 100
Profile Preference                    : 6
Voice Profile Codec                   : G.726-32K
Voice Profile Packetization-period(ms): ten
Voice Profile SID                     : sidGenric
VBD Profile Codec                     : G.711u
VBD Profile Packetization-period (ms) : five
- - - - - - - - - - - - - - - - - - - - - - -
Profile Type                          : Custom
Profile Number                        : 101
Profile Preference                    : 7
Voice Profile Codec                   : G.729ab
Voice Profile Packetization-period(ms): ten
Voice Profile SID                     : sid729
VBD Profile Codec                     : G.711u
VBD Profile Packetization-period (ms) : five
- - - - - - - - - - - - - - - - - - - - - - -
Profile Type                          : Custom
Profile Number                        : 110
Profile Preference                    : 8
Voice Profile Codec                   : G.729ab
Voice Profile Packetization-period(ms): thirty
Voice Profile SID                     : sid729
VBD Profile Codec                     : G.711u
VBD Profile Packetization-period (ms) : five
- - - - - - - - - - - - - - - - - - - - - - -
Profile Type                          : Custom
Profile Number                        : 200
Profile Preference                    : 9
Voice Profile Codec                   : clr chan
Voice Profile Packetization-period(ms): five
Voice Profile SID                     : VAD off
VBD Profile Codec                     : clr chan
```

Related Commands

Command	Description
cnfprofelemvbd	Configures the VBD profile element for a profile.
cnfprofelemvoice	Configures the voice profile element for a profile.
cnfprofparams	Configures a profile preference.

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dsprscprtn

To display configuration data about the resource partition which you created with the **addrscprtn** command, use the **dsprscprtn** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dsprscprtn

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data of the resource partition created with the **addrscprtn** command is displayed:

```
dsprscprtn

vismResPartPortNum:          1
vismResPartCtrlrNum:         par
vismResPartRowStatus:        add
vismResPartNumOfLcnAvail:    72
vismResPartLcnLow:           32
vismResPartLcnHigh:          279
vismResPartIngrPctBW:        100
vismResPartEgrPctBW:         100
vismResPartCtrlrID:          2
```

Related Commands

Command	Description
addrscprtn	Adds a resource partition for a virtual port.

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dsprsvpif

To display the Resource Reservation Protocol (RSVP) status of a specified connection, use the **dsprsvpif** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

dsprsvpif *lcn*

Syntax Description

lcn	Logical channel number of the connection for which you want to display the RSVP status; in the range from 131 to 510.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the RSVP status of LCN 142 is displayed:

```
dsprsvpif 142

Interface:        142
RSVP:             Enable
Refresh Interval: 45 sec
Refresh Multiple: 7
```

Related Commands

Command	Description
cnfrsvp	Configures RSVP for a specified connection.
cnfrsvprefreshmiss	Configures the number of times VISM waits for a missed RSVP minimum refresh message for a specified connection.
dsprsvpreq	Displays the data associated with a specified RSVP request.
dsprsvpreqs	Displays all RSVP-known requests on the current VISM card.
dsprsvpresv	Displays all data associated with an RSVP bandwidth reservation.
dsprsvpresvs	Displays all incoming RSVP-known reservations on the current VISM card.
dsprsvpsender	Displays all data associated with a specified RSVP path state.

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dsprsvpreq

To display the data associated with a specified Resource Reservation Protocol (RSVP) request, use the **dsprsvpreq** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

dsprsvpreq *ses-num request-num*

Syntax Description

ses-num	RSVP session number. It can be in the range from 1 to 65535.
request-num	RSVP request number. It can be in the range from 1 to 65535.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the data associated with the request identified by RSVP session number 400 and RSVP request number 64521 is displayed:

```
dsprsvpreq 400 64521

rsvpSessionNumber               : 400
rsvpResvFwdNumber               : 64521
rsvpResvFwdType                 : IPv4
rsvpResvFwdDestAddr             : 12.12.12.1
rsvpResvFwdSenderAddr           : 11.11.11.1
rsvpResvFwdDestAddrLength       : 32
rsvpResvFwdSenderAddrLength     : 32
rsvpResvFwdProtocol             : IP
rsvpResvFwdDestPort             : 49152
rsvpResvFwdPort                 : 49152
rsvpResvFwdHopAddr              : 12.12.12.2
rsvpResvFwdInterface            : 182
rsvpResvFwdService              : Guaranted
rsvpResvFwdTSpecRate            : 96000 bps
rsvpResvFwdTSpecPeakRate        : 96000 bps
rsvpResvFwdTSpecBurst           : 120 bytes
rsvpResvFwdTSpecMinTU           : 120
rsvpResvFwdTSpecMaxTU           : 120
rsvpResvFwdRSpecRate            : 96000 bps
rsvpResvFwdRSpecSlack           : 0 usec
rsvpResvFwdInterval             : 30000 msec
rsvpResvFwdScope                :
rsvpResvFwdShared               : false
rsvpResvFwdExplicit             : true
rsvpResvFwdRSVPHop              : true
rsvpResvFwdLastChange           : 5474
rsvpResvFwdStatus               : active
```


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Related Commands

Command	Description
cnfrsvp	Configures RSVP for a specified connection.
cnfrsvprefreshmiss	Configures the number of times VISM waits for a missed RSVP minimum refresh message for a specified connection.
dsprsvpif	Displays the RSVP status of a specified connection.
dsprsvpreqs	Displays all RSVP-known requests on the current VISM card.
dsprsvpresv	Displays all data associated with an RSVP bandwidth reservation.
dsprsvpresvs	Displays all incoming RSVP-known reservations on the current VISM card.
dsprsvpsender	Displays all data associated with a specified RSVP path state.

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dsprsvpreqs

To display all Resource Reservation Protocol (RSVP)-known requests on the current VISM card, use the **dsprsvpreqs** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

dsprsvpreqs

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

A request is a generated outgoing reservation message. Use the **dsprsvpresvs** command to display incoming or locally created reservations.

Examples

The following example shows that the RSVP-known request on the current VISM card is displayed:

```
dsprsvpreqs

Sess  Resv  From         To           Prot   DPort   SPort   Interval   Serv        BPS
-------------------------------------------------------------------------------------
0      0    11.11.11.1   12.12.12.1   IP     49152   49152   30000      Guaranteed  96000
```

Related Commands

Command	Description
cnfrsvp	Configures RSVP for a specified connection.
cnfrsvprefreshmiss	Configures the number of times VISM waits for a missed RSVP minimum refresh message for a specified connection.
dsprsvpif	Displays the RSVP status of a specified connection.
dsprsvpreq	Displays the data associated with a specified RSVP request.
dsprsvpresv	Displays all data associated with an RSVP bandwidth reservation.
dsprsvpresvs	Displays all incoming RSVP-known reservations on the current VISM card.
dsprsvpsender	Displays all data associated with a specified RSVP path state.
dsprsvpsenders	Displays all RSVP-known path states on the current VISM card.

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dsprsvpresv

To display all data associated with a Resource Reservation Protocol (RSVP) bandwidth reservation, use the **dsprsvpresv** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

dsprsvpresv *ses-num resv-num*

Syntax Description

ses-num	RSVP session number. It can be in the range from 1 to 65535.
resv-num	RSVP bandwidth reservation number. It can be in the range from 1 to 65535.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

An RSVP bandwidth reservation is uniquely identified by an RSVP session number and RSVP reservation number combination.

Examples

The following example shows that the data associated with RSVP session number 200 and RSVP bandwidth reservation number 3400 is displayed:

```
dsprsvpresv 200 3400

rsvpSessionNumber            : 200
rsvpResvNumber               : 3400
rsvpResvType                 : IPv4
rsvpResvDestAddr             : 12.12.12.1
rsvpResvSenderAddr           : 11.11.11.1
rsvpResvDestAddrLength       : 32
rsvpResvSenderAddrLength     : 32
rsvpResvProtocol             : IP
rsvpResvDestPort             : 49152
rsvpResvPort                 : 49152
rsvpResvHopAddr              : 12.12.12.1
rsvpResvInterface            : 0
rsvpResvService              : Guaranted
rsvpResvTSpecRate            : 96000 bps
rsvpResvTSpecPeakRate        : 96000 bps
rsvpResvTSpecBurst           : 120 bytes
rsvpResvTSpecMinTU           : 120
rsvpResvTSpecMaxTU           : 120
rsvpResvRSpecRate            : 96000 bps
rsvpResvRSpecSlack           : 0 usec
rsvpResvInterval             : 30000 msec
rsvpResvScope                :
rsvpResvShared               : false
rsvpResvExplicit             : true
rsvpResvRSVPHop              : true
rsvpResvLastChange           : 269040
rsvpResvStatus               : active
```


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Related Commands

Command	Description
cnfrsvp	Configures RSVP for a specified connection.
cnfrsvprefreshmiss	Configures the number of times VISM waits for a missed RSVP minimum refresh message for a specified connection.
dsprsvpif	Displays the RSVP status of a specified connection.
dsprsvpreq	Displays the data associated with a specified RSVP request.
dsprsvpreqs	Displays all RSVP-known requests on the current VISM card.
dsprsvpresvs	Displays all incoming RSVP-known reservations on the current VISM card.
dsprsvpsender	Displays all data associated with a specified RSVP path state.

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dsprsvpresvs

To display all incoming Resource Reservation Protocol (RSVP)-known bandwidth reservations on the current VISM card, use the **dsprsvpresvs** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

dsprsvpresvs

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

This command displays data for reservations that are incoming or created by application programming interface (API) calls. Use the **dsprsvpreqs** command to display data for outgoing reservations—requests.

Examples

The following example shows that all incoming RSVP-known bandwidth reservations are displayed:

```
dsprsvpresvs

Sess  Resv  From         To           Prot   DPort   SPort   Interval   Serv         BPS
-------------------------------------------------------------------------------------
0       0   11.11.11.1   12.12.12.1   IP     49152   49152   30000      Guaranteed   96000
0       0   12.12.12.1   11.11.11.1   IP     49152   49152   30000      Guaranteed   96000
```

Related Commands

Command	Description
cnfrsvp	Configures RSVP for a specified connection.
cnfrsvprefreshmiss	Configures the number of times VISM waits for a missed RSVP minimum refresh message for a specified connection.
dsprsvpif	Displays the RSVP status of a specified connection.
dsprsvpreq	Displays the data associated with a specified RSVP request.
dsprsvpreqs	Displays all RSVP-known requests on the current VISM card.
dsprsvpresv	Displays all data associated with an RSVP bandwidth reservation.
dsprsvpsender	Displays all data associated with a specified RSVP path state.

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dsprsvpsender

To display all data associated with a specified Resource Reservation Protocol (RSVP) path state, use the **dsprsvpsender** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

dsprsvpsender *ses-num sender-num*

Syntax Description

ses-num	RSVP session number. It can be in the range from 1 to 65535.
sender-num	RSVP sender number. It can be in the range from 1 to 65535.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

The session number and sender number combination uniquely identifies a path state.

Examples

The following example shows that the data associated with the RSVP path state identified by RSVP session number 100 and RSVP sender number 23099 is displayed:

```
dsprsvpsender 100 23099

rsvpSessionNumber                   : 100
rsvpSenderNumber                    : 23099
rsvpSenderType                      : IPv4
rsvpSenderDestAddr                  : 12.12.12.1
rsvpSenderAddr                      : 11.11.11.1
rsvpSenderDestAddrLength            : 32
rsvpSenderAddrLength                : 32
rsvpSenderProtocol                  : IP
rsvpSenderDestPort                  : 49152
rsvpSenderPort                      : 49152
rsvpSenderHopAddr                   : 12.12.12.2
rsvpSenderInterface                 : 182
rsvpSenderTSpecRate                 : 96000 bps
rsvpSenderTSpecPeakRate             : 96000 bps
rsvpSenderTSpecBurst                : 120 bytes
rsvpSenderTSpecMinTU                : 120
rsvpSenderTSpecMaxTU                : 120
rsvpSenderInterval                  : 30000 msec
rsvpSenderRSVPHop                   : true
rsvpSenderLastChange                : 4726
rsvpSenderAdspecBreak               : false
rsvpSenderAdspecHopCount            : 3
rsvpSenderAdspecPathBw              : -855437984 bps
rsvpSenderAdspecMinLatency          : 0 usec
rsvpSenderAdspecMtu                 : 1500 bytes
rsvpSenderAdspecGuaranteedSvc       : ?
rsvpSenderAdspecGuaranteedBreak     : ?
rsvpSenderAdspecGuaranteedCtot      : 0 bytes
rsvpSenderAdspecGuaranteedDtot      : 0 usec
rsvpSenderAdspecGuaranteedCsum      : 0 bytes
rsvpSenderAdspecGuaranteedDsum      : 0 usec
rsvpSenderAdspecGuaranteedHopCount  : 0
```


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```
rsvpSenderAdspecGuaranteedPathBw     : 0 bps
rsvpSenderAdspecGuaranteedMinLatency : 0 usec
rsvpSenderAdspecGuaranteedMtu        : 0 bytes
rsvpSenderAdspecCtrlLoadSvc          : 1
rsvpSenderAdspecCtrlLoadBreak        : false
rsvpSenderAdspecCtrlLoadHopCount     : 0
rsvpSenderAdspecCtrlLoadPathBw       : 0 bps
rsvpSenderAdspecCtrlLoadMinLatency   : 0 usec
rsvpSenderAdspecCtrlLoadMtu          : 0 bytes
rsvpSenderStatus                     : active
rsvpSenderTTL                        : 253
```

Related Commands

Command	Description
cnfrsvp	Configures RSVP for a specified connection.
cnfrsvprefreshmiss	Configures the number of times VISM waits for a missed RSVP minimum refresh message for a specified connection.
dsprsvpif	Displays the RSVP status of a specified connection.
dsprsvpreq	Displays the data associated with a specified RSVP request.
dsprsvpreqs	Displays all RSVP-known requests on the current VISM card.
dsprsvpresv	Displays all data associated with an RSVP bandwidth reservation.
dsprsvpresvs	Displays all incoming RSVP-known reservations on the current VISM card.
dsprsvpsenders	Displays all RSVP-known path states on the current VISM card.

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dsprsvpsenders

To display all Resource Reservation Protocol (RSVP)-known path states on the current VISM card, use the **dsprsvpsenders** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

dsprsvpsenders

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that all RSVP-known path states on the current VISM card are displayed:

```
dsprsvpsenders

Session  Sender  From         To           Prot   DPort   SPort   BPS
-------------------------------------------------------------------------
0        1       11.11.11.1   12.12.12.1   IP     49152   49152   96000
1        0       12.12.12.1   11.11.11.1   IP     49152   49152   96000
```

Related Commands

Command	Description
cnfrsvp	Configures RSVP for a specified connection.
cnfrsvprefreshmiss	Configures the number of times VISM waits for a missed RSVP minimum refresh message for a specified connection.
dsprsvpif	Displays the RSVP status of a specified connection.
dsprsvpreq	Displays the data associated with a specified RSVP request.
dsprsvpreqs	Displays all RSVP-known requests on the current VISM card.
dsprsvpresv	Displays all data associated with an RSVP bandwidth reservation.
dsprsvpresvs	Displays all incoming RSVP-known reservations on the current VISM card.
dsprsvpsender	Displays all data associated with a specified RSVP path state.

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dsprtpcnt

To display the bearer counters (statistics) for a specific Real-Time Transport Protocol (RTP) VoIP trunking connection, use the **dsprtpcnt** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

dsprtpcnt *conn-num*

Syntax Description

conn-num	Connection identification number. It can be in the range from 1 to 248.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the bearer counters (statistics) for the static RTP connection number 132 are displayed:

```
dsprtpcnt 132

Connection Index :132
Packets Sent     :99604
Packets Received :0
Octets Sent      :7966804
Octets Received  :0
Packets Lost     :0
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.

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Command	Description
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpconnstat	Displays the RTP connection statistics for a specified endpoint.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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dsprtpcon

To display the configuration data of a specified static Real-Time Transport Protocol (RTP) VoIP trunking connection, use the **dsprtpcon** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

dsprtpcon *conn-num*

Syntax Description

conn-num	Connection identification number. It can be in the range from 1 to 248.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data for the static RTP connection number 106 is displayed:

```
dsprtpcon 106

Connection Index     :106
Endpoint Number      :200
Local RTP Port       :50000
Remote RTP Port      :49650
Remote IP Address    :nnn.nnn.nnn.nnn
Codec Type           :G.729a
Packetization Period :20
ECAN Status          :Enable
VAD                  :Enable
VAD Timer            :300 ms
CAS Transport        :On
DTMF Transport       :On
ICS Enable           :On
Triple redundancy    :On
Bearer TOS           :160
Connection Mode      :GW can send and recv packets
Conn Alarm State     :
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.

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Command	Description
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpconnstat	Displays the RTP connection statistics for a specified endpoint.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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dsprtpconnstat

To display the Real-Time Transport Protocol (RTP) connection statistics for a specified endpoint, use the **dsprtpconnstat** command in the VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC operating modes.

dsprtpconnstat *endpt-num*

Syntax Description

endpt-num	Endpoint number. It can be a value from one of the following ranges: • For template number 1: – For VISM, from 1 to 145 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 2: – For VISM T1, from 1 to 192 – For VISM E1, from 1 to 248 • For template number 3: – For VISM, from 1 to 120 – For VISM-PR T1, from 1 to 192 – For VISM-PR E1, from 1 to 248 • For template number 4: – For VISM-PR, from 1 to 144

Command Modes

VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows the RTP connection statistics for endpoint 202:

```
dsprtpconnstat 202

No. of RTP Packets Sent =      0
No. of RTP Packets Received = 0
No. of Octets Sent =           0
No. of Octets Received =       0
No. of RTP Packets Lost =      0
Interarrival Jitter =          80
Latency =                      0
```


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Related Commands

Command	Description
addrtpcon	Adds a static RTP VoIP trunking connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
delrtpcon	Deletes a static RTP VoIP trunking connection.
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpconnstat	Displays the RTP connection statistics for a specified endpoint.

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dsprtpcons

To display the configuration data of all static Real-Time Transport Protocol (RTP) VoIP trunking connections, use the **dsprtpcons** command in the VoIP switching/trunking and VoIP and switched ATM AAL1 SVC operating modes.

dsprtpcons

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data for all static RTP connections are displayed:

```
dsprtpcons

Connection Endpoint Local Rtp Remote RTP  Remote IP       Codec Packetization    Alarm
  Index     Number     Port      Port      Address         Type     Period        State
---------- -------- --------- ----------  ---------------  ----- -------------  ----------
    1         1       49700     49700     209.165.200.224   G711u     ten         Active
    2         2       49702     49702     209.165.200.225   G.711u    ten         Active
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.

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Command	Description
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpconnstat	Displays the RTP connection statistics for a specified endpoint
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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dsprudptrunk

To display the configuration data of a specified ISDN PRI backhaul Reliable User Datagram Protocol (RUDP) session, use the **dsprudptrunk** command in the VoIP switching/trunking operating mode.

dsprudptrunk *session-num*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data of ISDN PRI backhaul RUDP session number 43 is displayed:

```
dsprudptrunk 43

Session Number     :43
Local Port         :1124
.
.
Trans State Timeout:2000
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.

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Command	Description
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunks	Displays the configuration data of all ISDN PRI backhaul RUDP sessions.

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dsprudptrunks

To display the configuration data of all ISDN PRI backhaul Reliable User Datagram Protocol (RUDP) sessions, use the **dsprudptrunks** command in the VoIP switching/trunking operating mode.

dsprudptrunks

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data of all ISDN PRI backhaul RUDP sessions are displayed:

```
dsprudptrunks

Session Number  Local Port  Local IP          Remote IP        Remote Port  Session State
--------------  ----------  ---------------   ---------------  -----------  -------------
      43           1124     209.165.200.224   209.165.200.210      1159        Active
```

Related Commands

Command	Description
addlapdtrunk	Adds an LAPD trunk to a specific VISM card line.
addrtpcon	Adds a static RTP VoIP trunking connection.
addrudptrunk	Adds an ISDN PRI backhaul RUDP session for an LAPD trunk connection.
clrrtpcnt	Clears the RTP counters (statistics) for a specific static RTP connection.
cnflapdtrunkpvc	Assigns the PVC trunk type that carries LAPD messages for the current VISM card.
cnflntrunkcond	Enables or disables line conditioning on a VISM card line if a network alarm is encountered.
cnfrtpcon	Modifies an existing static RTP VoIP trunking connection.
cnfrudptrunkrmtip	Modifies the remote IP address of VISM used in the ISDN PRI backhaul RUDP trunk for a specified session.
dellapdtrunk	Deletes an LAPD configured line.
delrtpcon	Deletes a static RTP VoIP trunking connection.
delrudptrunk	Deletes an ISDN PRI backhaul RUDP session that is associated with an LAPD.
dsplapd	Displays data about an LAPD.
dsplapdtrunkpvc	Displays the assigned PVC trunk type that carries LAPD trunk messages for the current VISM card.
dsplapdtrunks	Displays the configuration data of all LAPD trunks.

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Command	Description
dsprtpcnt	Displays the bearer counters (statistics) for a specific RTP VoIP trunking connection.
dsprtpcon	Displays the configuration data of a specific static RTP VoIP trunking connection.
dsprtpcons	Displays the configuration data of all static RTP VoIP trunking connections.
dsprudptrunk	Displays the configuration data of a specified ISDN PRI backhaul RUDP session.

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dspsarcnt

To display the segmentation and reassembly (SAR) counter values for a specified channel, use the **dspsarcnt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspsarcnt *lcn*

Syntax Description

lcn	Logical channel number of the connection for which you want to display SAR counter values; in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SAR counter values for logical channel number 132 are displayed:

```
dspsarcnt 132

SarShelfNum:          1
SarSlotNum:           17
SarChanNum:           132
                                Tx                    Rx
                           ---------------       ---------------
Total Cells:               69486                 60243
Total CellsCLP:            0                     0
Total CellsAIS:            0                     0
Total CellsFERF:           0                     0
Total CellsEnd2EndLpBk:    0                     0
Total CellsSegmentLpBk:    0                     0
RcvCellsDiscOAM:                                 2151467320
```

Related Commands

Command	Description
dspsarcnts	Displays the SAR counter values for a VISM card.

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dspsarcnts

To display the segmentation and reassembly (SAR) counter values for a VISM card, use the **dspsarcnts** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspsarcnts

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SAR counter values for the current VISM card are displayed:

```
dspsarcnts
```

Related Commands

Command	Description
dspsarcnt	Displays the SAR counter values for a specified channel.

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dspsarmsgcnt

To display the segmentation and reassembly (SAR) control message counter values for a VISM card, use the **dspsarmsgcnt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspsarmsgcnt

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SAR control message counter values for the current VISM card are displayed:

```
dspsarmsgcnt

RiscXmtCtrlMsg:            83606
RiscRcvCtrlMsg:            83606
SARXmtCtrlMsg:             83445
SARRcvCtrlMsg:             83606
SARCtrlMsgDiscLenErr:      0
SARCtrlMsgDiscCRCErr:      0
SARCtrlMsgDiscUnknownChan: 0
SARCtrlMsgLastUnknownChan: 0
```

Related Commands

Command	Description
clrsarmsgcnt	Clears the control message counters from a VISM card.

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dspses

To display the configuration data of a Primary Rate Interface (PRI) backhaul session, use the **dspses** command in the VoIP switching/trunking and switched AAL2 PVC operating mode.

dspses *session-num*

Syntax Description

session-num	Identifying session number in the range from 1 to 64.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data of PRI backhaul session number 1 is displayed:

```
dspses 1

vismRudpSessionNum:             1
vismRudpSessionGrpNum:          1
vismRudpSessionPriority:        1
vismRudpSessionState:           Oos
vismRudpSessionCurrSession:     0
vismRudpSessionLocalIp:         xxx.xx.xx.xxx
vismRudpSessionLocalPort:       1124
vismRudpSessionRmtIp:           xxx.xx.xx.xx
vismRudpSessionRmtPort:         1124
vismRudpSessionMaxWindow:       32
vismRudpSessionSyncAttempts:    5
vismRudpSessionMaxSegSize:      384
vismRudpSessionMaxAutoReset:    5
vismRudpSessionRetransTmout:    600
vismRudpSessionMaxRetrans:      3
vismRudpSessionMaxCumAck:       3
vismRudpSessionAckTmout:        300
vismRudpSessionMaxOutOfSeq:     4
vismRudpSessionNullSegTmout:    2000
vismRudpSessionTransStateTmout: 2000
```

Related Commands

Command	Description
addses	Adds a PRI backhaul session between a VISM card and a call agent.
delses	Deletes a PRI backhaul session.
dspsess	Displays the configuration data of all PRI backhaul sessions.

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dspsesgrp

To display configuration data of a Primary Rate Interface (PRI) backhaul session group, use the **dspsesgrp** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspsesgrp *group-num*

Syntax Description

group-num	Identifying session group number for which you want to display the PRI backhaul configuration data. It can be in the range from 1 to 16.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the PRI backhaul configuration data for session group number 2 is displayed:

```
dspsesgrp 2

vismSessionGrpNum:            2
vismSessionGrpSetNum:         1
vismSessionGrpState:          ?
vismSessionGrpCurrSession:    0
vismSessionGrpTotalSessions:  0
vismSessionGrpMgcName:        abc
vismSessionGrpSwitchFails:    0
vismSessionGrpSwitchSucesses: 0
```

Related Commands

Command	Description
addsesgrp	Adds a PRI backhaul session group between a VISM card and a call agent.
delsesgrp	Deletes a PRI backhaul session group.
dspsesgrps	Displays data about all PRI backhaul session groups.

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dspsesgrps

To display configuration data about all Primary Rate Interface (PRI) backhaul session groups, use the **dspsesgrps** command in the VoIP switching/trunking operating mode.

dspsesgrps

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data of the current PRI backhaul session groups is displayed:

```
dspsesgrps

GrpNum  SetNum  State  ActiveSes  TotalSes   Mgc   SwitchFail  SwitchSuccess
--------------------------------------------------------------------------------
  2       1      ?      0           0        abc       0           0
  3       1      ?      0           0        svc       0           0
```

Related Commands

Command	Description
addsesgrp	Adds a PRI backhaul session group between a VISM card and a call agent.
delsesgrp	Deletes a PRI backhaul session group.
dspsesgrp	Displays configuration data of a PRI backhaul session group.

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dspsess

To display configuration data about all Primary Rate Interface (PRI) backhaul sessions, use the **dspsess** command in the VoIP switching/trunking operating mode.

dspsess

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the current PRI backhaul sessions are displayed:

```
dspsess
```

Related Commands

Command	Description
addses	Adds a PRI backhaul session between a VISM card and a call agent.
delses	Deletes a PRI backhaul session.
dspses	Displays the configuration data of a PRI backhaul session.

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dspsesset

To display configuration data about a specified Primary Rate Interface (PRI) backhaul session set, use the **dspsesset** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspsesset *set-num*

Syntax Description

set-num	In the range from 1 to 16.
	Note Currently, only session set number 1 is supported.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data for PRI backhaul session number 1 is displayed:

```
dspsesset 1

vismSessionSetNum:            1
vismSessionSetState:          Idle
vismSessionSetTotalGrps:      2
vismSessionSetActiveGrp:      0
vismSessionSetFaultTolerant:  FT
vismSessionSetSwitchFails:    0
vismSessionSetSwitchSucesses: 0
```

Related Commands

Command	Description
addsesset	Adds a PRI backhaul session set between a VISM card and a call agent.
delsesset	Deletes a PRI backhaul session set.

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dspsesstat

To display configuration data about Primary Rate Interface (PRI) backhaul session statistics (counters), use the **dspsesstat** command in the VoIP switching/trunking operating mode.

dspsesstat *session-num*

Syntax Description

session-num	Session number for which you want to display PRI backhaul session statistics. It can be in the range from 1 to 64.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the statistics (counters) for the PRI backhaul session set number 1 are displayed:

```
dspsesstat 1

vismRudpSessionStatNum:          1
vismRudpSessionAutoResets:       0
vismRudpSessionRcvdAutoResets:   0
vismRudpSessionRcvdInSeqs:       0
vismRudpSessionRcvdOutSeqs:      0
vismRudpSessionSentPackets:      5
vismRudpSessionRcvdPackets:      0
vismRudpSessionSentBytes:        0
vismRudpSessionRcvdBytes:        0
vismRudpSessionDataSentPkts:     0
vismRudpSessionDataRcvdPkts:     0
vismRudpSessionDiscardPkts:      0
vismRudpSessionRetransPkts:      0
```

Related Commands

Command	Description
addsesset	Adds a PRI backhaul session set between a VISM card and a call agent.
delsesset	Deletes a PRI backhaul session set.

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dspslipcnt

To display the current clock slip counters for a specified VISM card line, use the **dspslipcnt** command in the VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC trunking operating modes.

dspslipcnt *line-num*

Syntax Description

line-num	Line number of the DS1 line for which you want to display the current clock slip counters. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the current clock slip counters for line 3 of the current VISM card are displayed:

```
dspslipcnt 3

Line 3 Slip Counters:   Tx Slip   Rx Slip
Uncontrolled Slip:      0         0
Frame Slip:             0         2
```

Related Commands

Command	Description
clrslipcnt	Clears current clock slip counters for a specified VISM card line.

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dspsrcpcnt

To display the Simple Resource Control Protocol (SRCP) message counters (statistics) for a specified call agent, use the **dspsrcpcnt** command in the VoIP switching/trunking operating mode.

dspsrcpcnt *ca-ip-address*

Syntax Description

ca-ip-address	IP address of the call agent for which you want to display SRCP statistics. It can be in dotted decimal format (nnn.nnn.nnn.nnn).

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SRCP message counters (statistics) of IP address 209.165.200.224 are displayed:

```
dspsrcpcnt 209.165.200.224

  Ip          Name     Discarded  Augw/Fail  Auln/Fail  Ntfy/Fail  Rqnt/Fail
---------  --------  ---------  ---------  ---------  ---------  ---------
2.2.2.2       mgc1       0          0/0        0/0        0/0        0/0
```

Related Commands

Command	Description
dspsrcpcnts	Displays SRCP message counters (statistics) for all known call agents.
dspsrcppeer	Displays the peer configuration data for a specified SRCP peer (call agent).
dspsrcppeers	Displays the peer configuration data for all known SRCP peers (call agents).
dspsrcpport	Displays the local UDP port number used by the SRCP on VISM.
dspsrcpretry	Displays the card level SRCP retransmission parameters—maximum number of retransmission attempts, minimum timeout, and maximum timeout.

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dspsrcpcnts

To display the Simple Resource Control Protocol (SRCP) message counters (statistics) for all known call agents, use the **dspsrcpcnts** command in the VoIP switching/trunking operating mode.

dspsrcpcnts

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SRCP message counters (statistics) for all known call agents are displayed:

```
dspsrcpcnts

Ip          Name    Discarded  Augw/Fail  Auln/Fail  Ntfy/Fail  Rqnt/Fail
-------  --------  ---------  ---------  ---------  ---------  ---------
2.2.2.2    mgc1         0          0/0        0/0        0/0        0/0
```

Related Commands

Command	Description
dspsrcpcnt	Displays the SRCP message counters (statistics) for a specified call agent.
dspsrcppeer	Displays the peer configuration data for a specified SRCP peer (call agent).
dspsrcppeers	Displays the peer configuration data for all known SRCP peers (call agents).
dspsrcpport	Displays the local UDP port number used by the SRCP on VISM.
dspsrcpretry	Displays the card level SRCP retransmission parameters—maximum number of retransmission attempts, minimum timeout, and maximum timeout.

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dspsrcppeer

To display the peer configuration data for a specified Simple Resource Control Protocol (SRCP) peer (call agent), use the **dspsrcppeer** command in the VoIP switching/trunking operating mode.

dspsrcppeer *peer-num*

Syntax Description

peer-num	Peer (call agent) identification number. It can be a value from 1 to 8.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the peer configuration data for the call agent identified by peer number 4 is displayed:

```
dspsrcppeer 4
```

Related Commands

Command	Description
dspsrcpcnt	Displays the SRCP message counters (statistics) for a specified call agent.
dspsrcpcnts	Displays SRCP message counters (statistics) for all known call agents.
dspsrcppeers	Displays the peer configuration data for all known SRCP peers (call agents).
dspsrcpport	Displays the local UDP port number used by the SRCP on VISM.
dspsrcpretry	Displays the card level SRCP retransmission parameters—maximum number of retransmission attempts, minimum timeout, and maximum timeout.

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dspsrcppeergrpparams

To display the Simple Resource Control Protocol (SRCP) parameters for all call agent redundancy groups that have SRCP added, use the **dspsrcppeergrpparams** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspsrcppeergrpparams

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SRCP parameters for all call agent redundancy groups that have SRCP added are displayed:

```
dspsrcppeergrpparams

Mgc Grp Num HeartbeatIntv TimeSinceHeartbeat MaxPdu
----------- ------------- ------------------- ------
     1           120               0           4096
```

Related Commands

Command	Description
addmgcgrpentry	Configures call agents as part of an MGC redundancy group and assigns a priority value for a call agent.
addmgcgrpprotocol	Associates a call agent redundancy group to a gateway control protocol.
cnfmgcgrpentry	Modifies the call agent priority level of a call agent within a call agent redundancy group.
cnfmgcgrpparam	Modifies a call agent redundancy group state change notification policy and priority level.
cnfsrcppeer	Configures the SRCP parameters when SRCP is the selected protocol for communication between the VISM card and call agent.
cnfsrcppeergrpparam	Modifies the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group.
delmgcgrpentry	Deletes a call agent from a call agent redundancy group.
delmgcgrpprotocol	Deletes an MGCP from a specified call agent redundancy group.
dspmgcgrpparams	Displays all configured call agent redundancy group parameters.
dspmgcgrpprotocols	Displays all configured call agent redundancy group protocols.
dspmgcgrps	Displays all configured call agent redundancy groups.

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dspsrcppeers

To display the peer configuration data for all known Simple Resource Control Protocol (SRCP) peers (call agents), use the **dspsrcppeers** command in the VoIP switching/trunking operating mode.

dspsrcppeers

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration data for all known SRCP peers (call agents) are displayed:

```
dspsrcppeers
```

Related Commands

Command	Description
dspsrcpcnt	Displays the SRCP message counters (statistics) for a specified call agent.
dspsrcpcnts	Displays SRCP message counters (statistics) for all known call agents.
dspsrcppeer	Displays the peer configuration data for a specified SRCP peer (call agent).
dspsrcpport	Displays the local UDP port number used by the SRCP on VISM.
dspsrcpretry	Displays the card level SRCP retransmission parameters—maximum number of retransmission attempts, minimum timeout, and maximum timeout.

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dspsrcpport

To display the local User Datagram Protocol (UDP) port number used by the Simple Resource Control Protocol (SRCP) on VISM, use the **dspsrcpport** command in the VoIP switching/trunking operating mode.

dspsrcpport

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the local UDP port number used by the SRCP is displayed:

```
dspsrcpport
```

Related Commands

Command	Description
dspsrcpcnt	Displays the SRCP message counters (statistics) for a specified call agent.
dspsrcpcnts	Displays SRCP message counters (statistics) for all known call agents.
dspsrcppeer	Displays the peer configuration data for a specified SRCP peer (call agent).
dspsrcppeers	Displays the peer configuration data for all known SRCP peers (call agents).
dspsrcpretry	Displays the card level SRCP retransmission parameters—maximum number of retransmission attempts, minimum timeout, and maximum timeout.

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dspsrcpretry

To display the VISM card level Simple Resource Control Protocol (SRCP) retransmission parameters—maximum number of retransmission attempts, minimum timeout, and maximum timeout—use the **dspsrcpretry** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspsrcpretry

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the VISM card level SRCP retransmission parameters are displayed:

```
dspsrcpretry

Min Request Timeout :    500
Retry Count         :    3
Max Request Timeout :    500
```

Related Commands

Command	Description
dspsrcpcnt	Displays the SRCP message counters (statistics) for a specified call agent.
dspsrcpcnts	Displays SRCP message counters (statistics) for all known call agents.
dspsrcppeer	Displays the peer configuration data for a specified SRCP peer (call agent).
dspsrcppeers	Displays the peer configuration data for all known SRCP peers (call agents).
dspsrcpport	Displays the local UDP port number used by the SRCP on VISM.

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dspt38fxlco

To display the fax handling instructions configured for a specified line, use the **dspt38fxlco** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspt38fxlco *line-num*

Syntax Description

line-num	Line number of the DS1 line for which you want to display T.38 fax handling instructions. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the fax handling instructions configured for line 3 are displayed:

```
dspt38fxlco 3

line_number: 3
FX_LCO: Gateway controlled preferred then pass-through
```

Related Commands

Command	Description
cnfcodectmpl	Assigns a codec template to an entire VISM card.
cnft38fxlco	Configures the fax handling instructions for a specified line.
cnft38nsetimeout	Configures a specified line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
cnft38params	Configures the T.38 fax transfer parameters for a specified line.
dspcodectmpls	Displays all entries in the codec template table.
dspt38fxlcos	Displays the fax handling instructions for all lines on the current VISM card.
dspt38nsetimeout	Displays a specified configured line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38nsetimeouts	Displays all configured lines with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38params	Displays the T.38 fax transfer parameters for a specified line.

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dspt38fxlcos

To display the fax handling instructions for all lines on the current VISM card, use the **dspt38fxlcos** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspt38fxlcos

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the fax handling instructions for all lines on the current VISM card are displayed:

```
dspt38fxlcos

Line_Number  Fx LCO
-----------  ------
1            Gateway controlled preferred then pass-through
2            Gateway controlled preferred then pass-through
.
.
.
8            Gateway controlled preferred then pass-through
```

Related Commands

Command	Description
cnfcodectmpl	Assigns a codec template to an entire VISM card.
cnft38fxlco	Configures the fax handling instructions for a specified line.
cnft38nsetimeout	Configures a specified line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
cnft38params	Configures the T.38 fax transfer parameters for a specified line.
dspcodectmpls	Displays all entries in the codec template table.
dspt38fxlco	Displays the fax handling instructions configured for a specified line.
dspt38nsetimeout	Displays a specified configured line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38nsetimeouts	Displays all configured lines with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38params	Displays the T.38 fax transfer parameters for a specified line.

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dspt38nsetimeout

To display a specified configured line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode, use the **dspt38nsetimeout** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspt38nsetimeout *line-num*

Syntax Description

line-num	Line number of the channel, in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode configured for line 5 is displayed:

```
dspt38nsetimeout 5

line_number: 5
FX_Nse_Timer: 1000 ms
```

Related Commands

Command	Description
cnfcodectmpl	Assigns a codec template to an entire VISM card.
cnft38fxlco	Configures the fax handling instructions for a specified line.
cnft38nsetimeout	Configures a specified line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
cnft38params	Configures the T.38 fax transfer parameters for a specified line.
dspcodectmpls	Displays all entries in the codec template table.
dspt38fxlco	Displays the fax handling instructions configured for a specified line.
dspt38fxlcos	Displays the fax handling instructions for all lines on the current VISM card.
dspt38nsetimeouts	Displays all configured lines with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38params	Displays the T.38 fax transfer parameters for a specified line.

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dspt38nsetimeouts

To display all configured lines with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode, use the **dspt38nsetimeouts** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspt38nsetimeouts

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode configured for all lines on the current VISM card is displayed:

```
dspt38nsetimeouts

Line_Number  NSE Timeout (ms)
-----------  ----------------
1            1000
2            1000
.
.
.
8            1000
```

Related Commands

Command	Description
cnfcodectmpl	Assigns a codec template to an entire VISM card.
cnft38fxlco	Configures the fax handling instructions for a specified line.
cnft38nsetimeout	Configures a specified line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
cnft38params	Configures the T.38 fax transfer parameters for a specified line.
dspcodectmpls	Displays all entries in the codec template table.
dspt38fxlco	Displays the fax handling instructions configured for a specified line.
dspt38fxlcos	Displays the fax handling instructions for all lines on the current VISM card.
dspt38nsetimeout	Displays a specified configured line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38params	Displays the T.38 fax transfer parameters for a specified line.

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dspt38params

To display the T.38 fax transfer parameters for a specified line, use the **dspt38params** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspt38params *line-num*

Syntax Description

line-num	Line number of the DS1 line for which you want to display T.38 fax transfer parameters. It can be in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the T.38 fax transfer parameters for line 7 are displayed:

```
dspt38params 7

line_number:         7
Max_Xmit_Rate:       fx14400bps
Info_Field_Size:     48
Data_Pkt_size:       40 ms
LS_Data_Redundancy:  5
HS_Data_Redundancy:  2
TCF_Method:          localTCF
Error_Correction:    enabled
NSF_Override:        enabled
NSF_Country_Code:    181
NSF_Vendor_Code:     18
```

Related Commands

Command	Description
cnfcodectmpl	Assigns a codec template to an entire VISM card.
cnft38fxlco	Configures the fax handling instructions for a specified line.
cnft38nsetimeout	Configures a specified line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
cnft38params	Configures the T.38 fax transfer parameters for a specified line.
dspcodectmpls	Displays all entries in the codec template table.
dspt38fxlco	Displays the fax handling instructions configured for a specified line.
dspt38fxlcos	Displays the fax handling instructions for all lines on the current VISM card.
dspt38nsetimeout	Displays a specified configured line with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.
dspt38nsetimeouts	Displays all configured lines with a length of time in which to wait for a remote acknowledgment of the offer to switch to fax transfer mode.

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dsptaskinfo

To display data about currently operating tasks, use the **dsptaskinfo** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dsptaskinfo

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the data of the currently operating tasks is displayed:

```
dsptaskinfo

taskName    msgReceivd     msgSent        msgSent     lastSent  lastSt lastSt
                                          Failed      FailedTask Failed Failed
                                                                 MsgTyp Errno
---------- --------------- --------------- ---------- ---------- ------ ------
nmimRouter 0               60              0                     0      0x0
scm        1240            584             0                     0      0x0
pSNMP      0               1               0                     0      0x0
cmm        277             258             0                     0      0x0
conn_mgr_t 1109790         29              0                     0      0x0
tFiled     68              69              0                     0      0x0
tSmd       237             313             0                     0      0x0
logd       304             1               0                     0      0x0
alarm_task 0               29              0                     0      0x0
oam        5               1109778         0                     0      0x0
bertd      0               1               0                     0      0x0
```

Related Commands

There are no related commands.

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dsptonebuiltinplans

To display all built-in (preconfigured) tone plans on the current VISM card, use the **dsptonebuiltinplans** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dsptonebuiltinplans

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

VISM supports version 1 of the country and region built-in tone plans listed in Table 5-3.

Table 5-3 VISM Release 2.2(0) Built-in Tone Plans

Tone Plan Name	Tone Plan Name	Tone Plan Name	Tone Plan Name
ITU	North America	Argentina	Australia
Austria	Belgium	Brazil	Canada
China	Cyprus	Czech Republic	Denmark
Finland	France	Germany	Greece
Hong Kong	Hungary	Iceland	India
Indonesia	Ireland	Israel	Italy
Japan	Korean Republic	Luxembourg	Malaysia
Mexico	Netherlands	New Zealand	Norway
Philippines	Poland	Portugal	Russia
Singapore	Slovakia	Slovenia	South Africa
Spain	Sweden	Switzerland	Taiwan
Thailand	Turkey	United Kingdom	United States

Examples

The following example shows that all preconfigured tone plans for the current VISM card are displayed:

```
dsptonebuiltinplans

Status      Tone Plan Region  Version  Tone Plan File Name
------      ----------------  -------  -------------------
configure   ITU               1                  BUILTIN
.
.
.
configure   United States     1                  BUILTIN

Number of Built-In Tone Plans = 48.
```


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Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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dsptoneplan

To display the tone configuration of a specified tone plan—either a built-in (preconfigured) or a provisional tone plan—use the **dsptoneplan** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dsptoneplan *tonep-region tonep-version*

Syntax Description

tonep-region	Tone plan country or region for which you want to display the tone configuration. It can be in the range from 1 to 64 alphanumeric characters and can contain underscores (_). This value is case sensitive.
tonep-version	Tone plan version number of the tone plan country or region for which you want to display the tone configuration. It can be in the range from 1 to 65535.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

This command displays amplitudes as a number which corresponds to a dBm value according to the following formula:

dBm = 20 * log10 (peek-to-peek/46348)

This formula equals the amplitude of one frequency. If both frequencies are configured for the same level, add 6 dBm to the results of the formula to obtain the total amplitude.

Examples

The following example shows that the tone configuration for singapore tone plan region, version number 11, is displayed:

```
dsptoneplan singapore 11

Region Name :Singapore
Version: 1
Description: Tone Plan for Singapore (SG)
File name: BUILTIN
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.

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Command	Description
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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dsptoneplans

To display the tone configuration of all tone plans—either built-in (preconfigured) or provisional tone plans—use the **dsptoneplans** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dsptoneplans

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

This command displays the status of tone plans in the following ways:

- Configure—For a built-in (preconfigured) tone plan, and a provisional tone plan that is downloaded properly and added to the system.
- Lost File—For a provisional tone plan that is not downloaded properly or for a tone plan that is not the proper one.
- Reloading—For a provisional tone plan that is currently downloading.

Examples

The following example shows that the tone configuration for tone plans is displayed:

```
dsptoneplans

Status      Tone Plan Region  Version   Tone Plan File Name
---------   ----------------  -------   -------------------
configure   singapore          11       sing_3
configure   ITU                1        BUILTIN
.
.
.
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.

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Command	Description
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.
dsptoneprovplans	Displays all user-added (provisional) tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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dsptoneprovplans

To display all provisional tone plans, use the **dsptoneprovplans** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dsptoneprovplans

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

This command displays the status of tone plans in the following ways:

- Configure—Downloaded properly and added to the system.
- Lost File—Not downloaded properly or for a tone plan that is not the proper one.
- Reloading—Currently downloading.

Examples

The following example shows that all provisional tone plans are displayed:

```
dsptoneprovplans

Status      Tone Plan Region  Version   Tone Plan File Name
---------   ----------------  -------   -------------------
configure   singapore          11       sing_3
.
.
.

Number of Provisionable Tone Plans = 1.
Number of un-configured Tone Plans = 31.
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.

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Command	Description
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneregionplans	Displays a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply.

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dsptoneregionplans

To display a list of all tone plans for the countries and regions whose name partially or completely matches the name you supply, use the **dsptoneregionplans** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dsptoneregionplans *tonep-region*

Syntax Description

tonep-region	Tone plan country or region for which you want to display associated tone plans. It can be in the range from 1 to 64 alphanumeric characters and can contain underscores (_). This value is case sensitive. **Note** You must enter at least a partial *tonep-region* value and the value must be enclosed in quotation marks.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that all tone plans associated with the partial tone plan region Uni are displayed:

```
dsptoneregionplans "Uni"

Status      Tone Plan Region  Version   Tone Plan File Name
---------   ----------------  -------   -------------------
configure   UnitedKingdon      11       BUILTIN
configure   UnitedStates       11       BUILTIN

Number of Matching Tone Plans = 2.
```

Related Commands

Command	Description
addtoneplan	Adds a tone plan to the current VISM card.
cnflnringback	Configures the ringback tone method for a specified line on the current VISM card.
cnflntoneplan	Assigns a tone plan to a specified VISM card line.
cnflntonetimeout	Modifies the timeout periods of all call progress tones supported by VISM on a specified VISM card line.
dellntoneplan	Deletes the tone plan configuration of a specified VISM card line.
deltoneplan	Deletes a previously added tone plan from the current VISM card.
dsplnringback	Displays the ringback tone method for a specified line on the current VISM card.
dsplntoneplan	Displays the tone plan configuration of a specified VISM card line.
dsplntonetimeout	Displays the configured timeout periods for all call progress tones of a specified VISM card line.

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Command	Description
dsptonebuiltinplans	Displays all preconfigured (built-in) tone plans on the current VISM card.
dsptoneplan	Displays the tone configuration of a specified tone plan—either a preconfigured (built-in) or user-added tone plan.
dsptoneplans	Displays the tone configuration of all tone plans—either preconfigured (built-in) or user-added tone plans.
dsptoneprovplans	Displays all user-added (provisional) tone plans.

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dspvbdcodec

To display the upspeed codec used for voiceband data (VBD), use the **dspvbdcodec** command in the VoIP switching/trunking operating mode.

dspvbdcodec

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the upspeed codec used for VBD is displayed:

```
dspvbdcodec

VBD UpSpeed Codec: G.711u
```

Related Commands

Command	Description
cnfvbdcodec	Configures the VBD upspeed codec.

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dspvbdpol

To display the VISM card level voiceband data (VBD) policies for fax/modem upspeed connection admission control (CAC) failure and fax/modem carrier loss for calls, use the **dspvbdpol** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspvbdpol

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the VISM card level VBD policies are displayed:

```
dspvbdpol

Carrier Loss Policy:         upspeedCodec
CAC Rejection Policy:        maintain
```

Related Commands

Command	Description
cnfvbdpol	Configures VISM card level VBD policies.

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dspvismdn

To display the domain name of the current VISM card, use the **dspvismdn** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspvismdn

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the domain name of the current VISM card is displayed:

```
dspvismdn

DomainName:       cisco.com
```

Related Commands

Command	Description
cnfvismdn	Configures the current VISM card domain name.

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dspvismip

To display the IP address and subnet mask for the current VISM card, use the **dspvismip** command in the VoIP switching/trunking operating mode.

dspvismip

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the IP address and subnet mask of the current VISM card are displayed:

```
dspvismip

VismIpAddress: 209.165.200.224
NetMask:       255.255.255.255
VismBearerIpAddress: 209.165.200.225
BearerNetMask: 255.255.255.255
```

Related Commands

Command	Description
cnfvismip	Configures the current VISM card IP address.

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dspvismparam

To display VISM card configuration parameters, use the **dspvismparam** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspvismparam

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the configuration parameters of the current VISM card are displayed:

```
dspvismparam

VISM mode:                  voipSwitching
VISM features Bit Map:      0x5ac
CAC flag:                   enable
DS0s available:             192
Template number:            2
Percent of functional DSPs: 100
IP address:                 64.68.2.1
Subnet mask                 255.255.255.252
RTCP report interval:       1000 msec
RTCP receive multiplier:    3
RTP receive timer:          disable
ControlPrecedence/Tos:      0x60
BearerPrecedence/Tos:       0xa0
Aal2 muxing status:         disable
Tftp Server Dn              TFTPDOMAIN
Aggregate Clipping          enable
Aggregate Svc Bandwidth     0
Codec negotiation option    1
Profile negotiation option  1
VAD Duty Cycle              61
VAD Tolerance               100
CALEA:                      enable
```

Note The DS0 available parameter value is applicable to AAL2 trunking operating mode only. The RTCP report interval, RTP receive timer, ControlPrecedence/Tos, and BearerPrecedence/Tos parameter values are applicable to VoIP switching/trunking operating mode only.

Related Commands

Command	Description
addcon	Adds a PVC connection between a VISM card and any SM or PXM card.
cnfcac	Enables or disables the CAC feature on a VISM card.
cnfcalea	Enables or disables the CALEA feature on the current VISM card.

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Command	Description
cnfco4timer	Configures the bearer continuity test CO4 timer value.
cnfcodectmpl	Assigns a codec template to an entire VISM card.
cnfcon	Configures a connection between a VISM card and an MGX 8000 Series platform PXM card.
cnfvismip	Configures the current VISM card IP address.
cnfvismmode	Configures the initial operating mode for a VISM card.
dspcalea	Displays the CALEA feature configuration status of the current VISM card.
dspco4timer	Displays the bearer continuity test CO4 timer value.

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dspvoipparams

To display the VoIP switching/trunking operating mode parameters, use the **dspvoipparams** command in the VoIP switching/trunking operating mode.

dspvoipparams

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

The following parameters are displayed when you use this command:

- DTMF relay status—Displays whether the CAS bits are configured to be relayed to the other endpoint.
- CAS bits transport status—Displays whether the DTMF tones are configured to be relayed to the other endpoint.
- VAD timer value—Displays the hangover time before silence compression is invoked.
- Event negotiation policy—None, proprietary, or all.
- Silence insertion descriptor (SID) payload type.

Examples

The following example shows that the VoIP switching/trunking operating mode parameters are displayed:

```
dspvoipparams

VoIP DTMF RELAY:          Off
VoIP CAS BITS TRANSPORT:  Off
VoIP VAD TIMER:           250
VoIP EVENT NEGOTIATE POL: proprietary
VoIP SID PAYLOAD TYPE:    13
```

Related Commands

Command	Description
cnfvoiptimerparam	Configures the holdover time for VAD before silence compression is activated.
cnfvoiptransparams	Configures the VoIP transportation parameters.

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dspxgcpbt

To display the default network type, virtual channel (VC) type, and connection type of the current VISM card, use the **dspxgcpbt** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

dspxgcpbt

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the default network type, VC type, and connection type of the current VISM card are displayed:

```
dspxgcpbt

Network Type:     IP
VC Type:          PVC
Conn Type:        not-applicable
```

Related Commands

Command	Description
cnfxgcpbt	Configures a default bearer type.

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dspxgcpcalls

To display the xGCP call ID, connection ID, and endpoint name corresponding to each call agent established connection on the gateway, use the **dspxgcpcalls** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspxgcpcalls

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

If more than one xGCP connection ID is associated with the same call ID, each connection ID appears on a separate line in the display.

Examples

The following example shows that the xGCP call IDs, connection IDs, and endpoint names corresponding to all call agent established connections on the gateway are displayed:

```
dspxgcpcalls
xGCP Call ID                    xGCP Connection ID  xGCP Endpoint Name
------------------------------  ------------------  ------------------
                       5898886      358a            vism/T1-2/21
                      22263730      368d            vism/T1-2/23
                      35040677      338d            vism/T1-1/3
                      37233496      3588            vism/T1-1/5
                      44147097      358c            vism/T1-2/6
                      59925215      3685            vism/T1-2/14
                      86098952      3787            vism/T1-1/23
                     106425635      3689            vism/T1-1/22
                     127810066      348f            vism/T1-1/20
                     143146281      3789            vism/T1-1/8
                     251336169      3688            vism/T1-1/14
                     308712944      338f            vism/T1-2/12
                     332811049      3690            vism/T1-1/15
                     349719791      348b            vism/T1-1/12
                     368644231      3683            vism/T1-1/21
                     414134979      3589            vism/T1-1/13
                     431808675      348e            vism/T1-2/5
                     439592534      3687            vism/T1-1/6
                     449708369      338a            vism/T1-1/10
                     472992198      368b            vism/T1-1/7
                     667869345      3392            vism/T1-2/20
                     689149158      3584            vism/T1-2/13
                     731314813      368e            vism/T1-2/8
                     733047547      3686            vism/T1-2/22
                     840095617      368a            vism/T1-2/7
                     855162306      338c            vism/T1-1/18
                     889601897      368c            vism/T1-2/15
                     959868114      3395            vism/T1-1/4
```

Related Commands

There are no related commands.

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dspxgcpcids

To display the logical channel number (LCN), channel identification number (CID), xGCP connection ID, endpoint name, and call ID corresponding to each call agent established AAL2 connection on the gateway, use the **dspxgcpcids** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspxgcpcids

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the xGCP connection CID configuration data for each call agent established AAL2 connection on the gateway is displayed:

```
dspxgcpcids

LCN  CID  xGCP Connection ID  xGCP Endpoint Name  xGCP Call ID
---  ---  ------------------  ------------------  --------------------------------
132  10       27ba            vism/T1-1/2                          346350363
132  14       24c2            vism/T1-1/6                          219196705
132  15       24c6            vism/T1-1/7                            3124232
132  16       24cb            vism/T1-1/8                           71993004
132  17       26be            vism/T1-1/9                          964845576
132  18       27bc            vism/T1-1/10                          40023388
132  21       24bc            vism/T1-1/13                         308615846
132  22       24c3            vism/T1-1/14                         540211499
132  23       24c8            vism/T1-1/15                         887014703
132  24       25c2            vism/T1-1/16                         750350805
132  25       26bf            vism/T1-1/17                         757994272
132  29       24bf            vism/T1-1/21                         407192558
132  30       24c5            vism/T1-1/22                         702316810
132  31       24c9            vism/T1-1/23                         686445676
132  32       26bc            vism/T1-1/24                         366717759
132  33       26c0            vism/T1-2/1                          142297238
132  37       24c1            vism/T1-2/5                          681759411
132  38       24c4            vism/T1-2/6                          439143079
132  39       24c7            vism/T1-2/7                          966681180
132  40       25c5            vism/T1-2/8                          565100353
132  41       26c1            vism/T1-2/9                          273412123
d32  9        26c3            vism/T1-1/1                          705499200
```

Related Commands

Command	Description
delxgcpcon	Deletes an xGCP connection specified by the xGCP connection identification number.
dspxgcpcon	Displays the attributes associated with a call agent established connection.

Downloaded from www.Manualslib.com manuals search engine

Command	Description
dspxgcpcons	Displays the xGCP connection ID, endpoint name, and call ID corresponding to each call agent established connection on the gateway.
dspxgcpendpts	Displays the xGCP endpoint names of all endpoints added with the addendpt command, or the SNMP equivalent.

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dspxgcpcnf

To display previously configured Simple Gateway Control Protocol (SGCP)/Media Gateway Control Protocol (MGCP) timeout and retransmission count values, use the **dspxgcpcnf** command in the VoIP switching/trunking operating mode.

dspxgcpcnf

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SGCP/MGCP timeout and retransmission count values are displayed:

```
dspxgcpcnf

MWD timeout :        10000
Request timeout :    500
Retry count:         3
```

Related Commands

Command	Description
cnfxgcpmwd	Configures the maximum waiting delay value used for sending an RSIP message to the call agent.
cnfxgcpretry	Configures VISM minimum and maximum request timeouts and retransmission attempts for communication with the associated call agent.

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dspxgcpcnt

To display the Simple Gateway Control Protocol (SGCP)/Media Gateway Control Protocol (MGCP) message statistics for a specified call agent, use the **dspxgcpcnt** command in the VoIP switching/trunking operating mode.

dspxgcpcnt *ca-ip-address*

Syntax Description

ca-ip-address	IP address of the call agent for which you want to display SGCP/MGCP message statistics. It can be in dotted decimal format (nnn.nnn.nnn.nnn).

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SGCP/MGCP message statistics of the call agent are displayed:

```
dspxgcpcnt 209.165.200.204

IP               success msg    fail msg
---------------  -----------    ----------
209.165.200.204  0              4
```

Related Commands

Command	Description
dspxgcpcnts	Displays the SGCP/MGCP message statistics for all known call agents.

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dspxgcpcnts

To display the Simple Gateway Control Protocol (SGCP)/Media Gateway Control Protocol (MGCP) message statistics for all known call agents, use the **dspxgcpcnts** command in the VoIP switching/trunking operating mode.

dspxgcpcnts

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SGCP/MGCP messages statistics for all known call agents are displayed:

```
dspxgcpcnts

IP          success msg    fail msg
---------   -----------   ----------
2.2.2.2            0           4
```

Related Commands

Command	Description
dspxgcpcnt	Displays the SGCP/MGCP message statistics for a specified call agent.

Downloaded from www.Manualslib.com manuals search engine

dspxgcpcon

To display the attributes associated with a call agent established connection, use the **dspxgcpcon** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspxgcpcon *conn-id display-level*

Syntax Description

conn-id	Connection identification number. It can be in the range of hexadecimal numbers from 0 to f.
display-level	Detail level of display. It can be one of the following values: • 1 = Abbreviated display • 2 = Detailed display

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the abbreviated level of attributes associated with the call agent identified by the connection identification number 4C5B are displayed:

```
dspxgcpcon 4c5b 1

*********************************************************
              Attributes of Connection ID: 4c5b
*********************************************************
Call ID                                    = C0011
Endpoint Name                              = vism/T1-1/1
Line Number                                = 1
Connection ID                              = 4c5b
Admitted Codec                             = PCMA
Admitted Pkt. period                       = 10 ms
Connection Mode                            = sendrecv
Echo Cancellation                          = FALSE
Type of Service                            = 0xa0
Network Type                               = IP
Remote Address Type                        = Invalid (0)
Continuity Test                            = FALSE
Loopback                                   = FALSE
Local RTP Port                             = 49556
Remote RTP Port                            = 49544
Remote RTP Port Count                      = 1
Remote Address                             =64.68.18.1
MGC Domain Name                            = mgc1
MGC IP Address                             = Unknown
MGC UDP Port                               = 2427
Port in Notified Entity                    = FALSE
Protocol Version                           = MGCP 0.1
Silence Suppression                        = FALSE
SID                                        = TRUE
VAD Timer                                  = 250 ms
CAS Type                                   = None
```


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```
Triple Redundancy                               = TRUE
DTMF forwarding                                 = FALSE
Local Connection Options (lco string)           = L: e:off, s:off, a:PCMA

Remote Session Descriptor (sdp string)          =
---------------------------------------
v=0
o=- C0011 0 IN - -
s=-
c=IN IP4 64.68.18.1
t=0 0
m=audio 49544 RTP/AVP 8
---------------------------------------
```

The following example shows that the detailed level of attributes associated with the call agent identified by the connection identification number 4C5B are displayed:

dspxgcpcon 4c5b 2

```
*********************************************************
              Attributes of Connection ID: 4c5b
*********************************************************
Call ID                                         = C0011
Endpoint Name                                   = vism/T1-1/1
Line Number                                     = 1
Connection ID                                   = 4c5b
Admitted Codec                                  = PCMA
Admitted Pkt. period                            = 10 ms
Connection Mode                                 = sendrecv
Echo Cancellation                               = FALSE
Type of Service                                 = 0xa0
Network Type                                    = IP
Remote Address Type                             = Invalid (0)
Continuity Test                                 = FALSE
Loopback                                        = FALSE
Local RTP Port                                  = 49556
Remote RTP Port                                 = 49544
Remote RTP Port Count                           = 1
Remote Address                                  =64.68.18.1
MGC Domain Name                                 = mgc1
MGC IP Address                                  = Unknown
MGC UDP Port                                    = 2427
Port in Notified Entity                         = FALSE
Protocol Version                                = MGCP 0.1
Silence Suppression                             = FALSE
SID                                             = TRUE
VAD Timer                                       = 250 ms
CAS Type                                        = None
Triple Redundancy                               = TRUE
DTMF forwarding                                 = FALSE
Local Connection Options (lco string)           = L: e:off, s:off, a:PCMA
Remote Session Descriptor (sdp string)          =
---------------------------------------
v=0
o=- C0011 0 IN - -
s=-
c=IN IP4 64.68.18.1
t=0 0
m=audio 49544 RTP/AVP 8
---------------------------------------
Timestamp Information:
Display Type      = Originating
CRCX Ack (CRCX Ack - CRCX)          = 10.000000000 ms
MDCX Command (MDCX - CRCX)          = 70.000000000 ms
```


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```
MDCX Ack (MDCX Ack - CRCX)           = 80.000000000 ms
Time since the CRCX was received     = 2016.930000000 sec
  (CRCX Command is not shown since it is used as reference)

Codec List: Codec[1]                          = PCMA
Pkt. Period List[1]: Pkt. Period[1]         = 10 ms
Pkt. Period Range[1] - Low                  = 10 ms
Pkt. Period Range[1] - High                 = 10 ms

LCO Codec List[1]                            = PCMA
LCO Pkt. Period Range  - Low                  = 0 ms
LCO Pkt. Period Range  - High                 = 0 ms
TDM Endpoint Connected to DSP Channel         = TRUE
DSP Channel Connected to Network Endpoint     = TRUE
```

Related Commands

Command	Description
delxgcpcon	Deletes an xGCP connection specified by the xGCP connection identification number.
dspxgcpcids	Displays the LCN, CID, xGCP connection ID, endpoint name, and call ID corresponding to each call agent established AAL2 connection on the gateway.
dspxgcpcons	Displays the xGCP connection identification number, endpoint name, and call identification number corresponding to each call agent established connection on the gateway.
dspxgcpendpts	Displays the xGCP endpoint names of all endpoints added with the addendpt command, or the SNMP equivalent.

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dspxgcpcons

To display the xGCP connection identification number, endpoint name, and call identification number corresponding to each call agent established connection on the gateway, use the **dspxgcpcons** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspxgcpcons

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the xGCP connection identification number, endpoint name, and call identification number of each call agent established connection on the gateway are displayed:

```
dspxgcpcons

xGCP Connection ID  xGCP Endpoint Name  xGCP Call ID
------------------  ------------------  ------------
4c5b                vism/T1-1/1         C0011
4c5c                vism/T1-1/2         C0012
```

Related Commands

Command	Description
delxgcpcon	Deletes an xGCP connection specified by the xGCP connection identification number.
dspxgcpcids	Displays the LCN, CID, xGCP connection ID, endpoint name, and call ID corresponding to each call agent established AAL2 connection on the gateway.
dspxgcpendpts	Displays the xGCP endpoint names of all endpoints added with the addendpt command, or the SNMP equivalent.

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dspxgcpdefpkg

To display the Simple Gateway Control Protocol (SGCP)/Media Gateway Control Protocol (MGCP) default package, use the **dspxgcpdefpkg** command in the VoIP switching/trunking operating mode.

dspxgcpdefpkg

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SGCP/MGCP default package is displayed:

```
dspxgcpdefpkg

Default package :   T
```

Related Commands

There are no related commands.

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dspxgcpdetailcnt

To display Simple Gateway Control Protocol (SGCP)/Media Gateway Control Protocol (MGCP) details of message statistics exchanged between VISM and a specified call agent, use the **dspxgcpdetailcnt** command in the VoIP switching/trunking operating mode.

dspxgcpdetailcnt *ca-ip-address*

Syntax Description

ca-ip-address	IP address of the call agent for which you want to display detailed exchanged message statistics. It can be in dotted decimal format (nnn.nnn.nnn.nnn).

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SGCP/MGCP details of message statistics exchanged between VISM and the call agent identified by the IP address are displayed:

```
dspxgcpdetailcnt 209.165.200.224

IP Address                    : 209.165.200.224
CRCX Count                    : 0
CRCX Fail Count               : 0
MDCX Count                    : 0
MDCX Fail Count               : 0
DLCX Received Count           : 0
DLCX Received Fail Count      : 0
DLCX Sent Count               : 0
DLCX Sent Fail Count          : 0
RQNT Count                    : 0
RQNT Fail Count               : 0
Notify Count                  : 0
Notify Fail Count             : 0
Audit Endpoint Count          : 0
Audit Endpoint Fail Count     : 0
Audit Connection Count        : 0
Audit Connection Fail Count   : 0
RSIP Count                    : 4
RSIP Fail Count               : 4
```

Related Commands

Command	Description
dspxgcpdetailcnts	Displays SGCP/MGCP details of message statistics exchanged between VISM and all known call agents.

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dspxgcpdetailcnts

To display Simple Gateway Control Protocol (SGCP)/Media Gateway Control Protocol (MGCP) details of message statistics exchanged between VISM and all known call agents, use the **dspxgcpdetailcnts** command in the VoIP switching/trunking operating mode.

dspxgcpdetailcnts

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SGCP/MGCP details of message statistics exchanged between VISM and all known call agents are displayed:

```
dspxgcpdetailcnts

IP Address                    : 2.2.2.2
CRCX Count                    : 0
CRCX Fail Count               : 0
MDCX Count                    : 0
MDCX Fail Count               : 0
DLCX Received Count           : 0
DLCX Received Fail Count      : 0
DLCX Sent Count               : 0
DLCX Sent Fail Count          : 0
RQNT Count                    : 0
RQNT Fail Count               : 0
Notify Count                  : 0
Notify Fail Count             : 0
Audit Endpoint Count          : 0
Audit Endpoint Fail Count     : 0
Audit Connection Count        : 0
Audit Connection Fail Count   : 0
RSIP Count                    : 4
RSIP Fail Count               : 4
```

Related Commands

Command	Description
dspxgcpdetailcnt	Displays SGCP/MGCP details of message statistics exchanged between VISM and a specified call agent.

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dspxgcpendpt

To display the attributes associated with an endpoint added using the **addendpt** command, or the SNMP equivalent, use the **dspxgcpendpt** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspxgcpendpt *line-num ds0-num*

Syntax Description

line-num	Line number of the endpoint for which you want to display the attributes. It can be in the range from 1 to 8.
ds0-num	DS0 number of the endpoint for which you want to display the attributes. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

An endpoint added with the **addendpt** command is considered an xGCP endpoint even though a call agent established connection cannot be associated with the endpoint.

Examples

The following example shows that the statistics for the endpoint identified by line number 1, DS0 number 1 are displayed:

```
dspxgcpendpt 1 1

*******************************************************
             Attributes of Endpoint Name: vism/T1-1/1
*******************************************************
Line Number                                 = 1
Endpoint Number                             = 1
Endpoint Name                               = vism/T1-1/1
Continuity Test                             = FALSE
Echo Cancellation                           = FALSE
Protocol Version                            = Invalid Protocol
MGC IP Address                              = Unknown
MGC UDP Port                                = 0
Port in Notified Entity                     = FALSE
Request ID                                  = 0
Quarantine Handling                         =
Requested Event List                        =
Signal Event List                           =
Accumulated Event List                      =
Quarantined Event List                      =
Detect Event List                           =
Accumulated Dialed String                   =
DSP Channel Connected to Network Endpoint    = FALSE
Retry Count                                 = 3
Minimum Retry Timeout                       = 500 ms
Maximum Retry Timeout                       = 500 ms
```


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Related Commands

Command	Description
delxgcpcon	Deletes an xGCP connection specified by the xGCP connection identification number.
dspxgcpcids	Displays the LCN, CID, xGCP connection ID, endpoint name, and call ID corresponding to each call agent established AAL2 connection on the gateway.
dspxgcpcon	Displays the attributes associated with a call agent established connection.
dspxgcpcons	Displays the xGCP connection ID, endpoint name and call ID corresponding to each call agent established connection on the gateway.

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dspxgcpendptcons

To display the attributes of all connections associated with an endpoint added using the **addendpt** command, or the SNMP equivalent, use the **dspxgcpendptcons** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspxgcpendptcons *line-num ds0-num display-level*

Syntax Description

line-num	Line number of the endpoint connections for which you want to display the attributes. It can be in the range from 1 to 8.
ds0-num	DS0 number of the endpoint connections for which you want to display the attributes. It can be a value from one of the following ranges: • 1 to 24 for T1 lines • 1 to 31 for E1 lines
display-level	Detail level of display. It can be one of the following values: • 1 = Abbreviated display. • 2 = Detailed display.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the attributes of all connections associated by the endpoint identified by line number 1, DS0 number 1 are displayed in the detailed format:

```
dspxgcpendptcons 1 1 2

*******************************************************
             Attributes of Connection ID:1
*******************************************************
Call ID                                  = 634
Endpoint Name                            = vism/T1-1/1
Line Number                              = 1
Connection ID                            = 1
Admitted Codec                           = PCMU
Admitted Pkt. period                     = 10 ms
Connection Mode                          = sendrecv
Echo Cancellation                        = TRUE
Type of Service                          = 0xa0
Network Type                             = IP
Remote Address Type                      = Invalid (0)
Continuity Test                          = FALSE
Loopback                                 = FALSE
Local RTP Port                           = 49152
Remote RTP Port                          = 49154
Remote RTP Port Count                    = 1
Remote Address                           = nn.nnn.n.n
Remote SDP                               = TRUE
MGC Domain Name                          = vsc-1
```


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```
MGC IP Address                                  = Unknown
MGC UDP Port                                    = 2427
Port in Notified Entity                         = FALSE
Protocol Version                                = MGCP 0.1
Silence Suppression                             = TRUE
VAD Timer                                       = 250
CAS Forwarding Backhaul                         = 0
Triple Redundancy                               = 1
DTMF forwarding                                 = 0
Local Connection Options (lco string)           = L:e:on
Remote Session Descriptor (sdp string)          =
Timestamp Information:
Display Type      = Terminating
CRCX Ack (CRCX Ack - CRCX)          = 10.000000000 ms
Time since the CRCX was received    = 210.280000000 sec
(CRCX Command is not shown since it is used as reference)

Codec List:Codec[1]                            = PCMU
  Pkt. Period List[1]:Pkt. Period[1]           = 10 ms
  Pkt. Period Range[1] - Low                    = 10 ms
  Pkt. Period Range[1] - High                   = 10 ms
Codec List:Codec[2]                            = PCMA
  Pkt. Period List[2]:Pkt. Period[1]           = 10 ms
  Pkt. Period Range[2] - Low                    = 10 ms
  Pkt. Period Range[2] - High                   = 10 ms
Codec List:Codec[3]                            = CCD
  Pkt. Period List[3]:Pkt. Period[1]           = 10 ms
  Pkt. Period Range[3] - Low                    = 10 ms
  Pkt. Period Range[3] - High                   = 10 ms
LCO Pkt. Period Range - Low                     = 0 ms
LCO Pkt. Period Range - High                    = 0 ms
TDM Endpoint Connected to DSP Channel           = TRUE
DSP Channel Connected to Network Endpoint       = TRUE
```

Related Commands

Command	Description
delxgcpcon	Deletes an xGCP connection specified by the xGCP connection identification number.
dspxgcpcids	Displays the LCN, CID, xGCP connection ID, endpoint name, and call ID corresponding to each call agent established AAL2 connection on the gateway.
dspxgcpcon	Displays the attributes associated with a call agent established connection.
dspxgcpcons	Displays the xGCP connection ID, endpoint name and call ID corresponding to each call agent established connection on the gateway.
dspxgcpendpt	Displays the xGCP endpoint names corresponding to each endpoint number.
dspxgcpendpts	Displays the xGCP endpoint name corresponding to each endpoint added using the addendpt command or the SNMP equivalent.

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dspxgcpendpts

To display the xGCP endpoint names corresponding to each endpoint which has been added using the addendpt command, or the SNMP equivalent, use the **dspxgcpendpts** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspxgcpendpts

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

The xGCP endpoint name is displayed with this command regardless of whether there are call agent established connections associated with the endpoint. If there are call agent established connections associated with the endpoint, the corresponding xGCP connection identification number and call identification number appear on the same line as the endpoint name.

Examples

The following example shows that the endpoint names that correspond to each endpoint are displayed:

```
dspxgcpendpts

xGCP Endpoint Name  xGCP Connection ID  xGCP Call ID
------------------  ------------------  --------------
vism/T1-1/1             4c5b               C0011
vism/T1-1/2             4c5c               C0012
vism/T1-1/3
vism/T1-1/4
vism/T1-1/5
vism/T1-1/6
vism/T1-1/7
vism/T1-1/8
vism/T1-1/9
vism/T1-1/10
vism/T1-1/11
vism/T1-1/12
vism/T1-1/13
vism/T1-1/14
vism/T1-1/15
vism/T1-1/16
vism/T1-1/17
vism/T1-1/18
vism/T1-1/19
vism/T1-1/20
vism/T1-1/21
vism/T1-1/22
vism/T1-1/23
vism/T1-1/24
```

Related Commands

Command	Description
dspxgcpendpt	Displays the xGCP endpoint names corresponding to each endpoint number.

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dspxgcperrcnt

To display the Simple Gateway Control Protocol (SGCP)/Media Gateway Control Protocol (MGCP) error counts for both unsupported protocol versions and unrecognized packets, use the **dspxgcperrcnt** command in the VoIP switching/trunking operating mode.

dspxgcperrcnt

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the xGCP error counts for unsupported protocol versions and unrecognized packets are displayed:

```
dspxgcperrcnt

Number of msg. for an unsupported protocol version :   0
Number of unrecognized packets :   0
```

Related Commands

There are no related commands.

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dspxgcpinterops

To display the status of the Session Description Protocol (SDP) OST interoperability feature, use the **dspxgcpinterops** command in the VoIP switching/trunking operating mode.

dspxgcpinterops

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the SDP OST interoperability status is displayed:

```
dspxgcpinterops

SDP OST flag: enable
```

Related Commands

Command	Description
cnfxgcpinteropsdpost	Enables or disables the SDP OST interoperability feature.

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dspxgcplncons

To display the DS0s with active xGCP connections, the number of connections for each line, and the number of active calls for each card, use the **dspxgcplncons** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspxgcplncons

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the DS0s with active xGCP connections, the number of connections for each line, and the number of active calls for each card are displayed:

```
dspxgcplncons

Connections Active Line 1: 0x00bee89e    (15)
Connections Active Line 2: 0x00b5bfc5    (16)
Connections Active Line 3: 0x0015387c    (11)
Connections Active Line 4: 0x00000000    (0)
Connections Active Line 5: 0x00000000    (0)
Connections Active Line 6: 0x00000000    (0)
Connections Active Line 7: 0x00000000    (0)
Connections Active Line 8: 0x00000000    (0)
Total Active Connections: 42
```

Note The hexadecimal digits indicate the DS0s on which the connections exist. The parenthetical numbers indicate the total number of active DS0s on a line. The last line of the displayed data indicates the total number of active connections.

Related Commands

Command	Description
delxgcpcon	Deletes an xGCP connection specified by the xGCP connection identification number.
dspxgcpcids	Displays the LCN, CID, xGCP connection ID, endpoint name, and call ID corresponding to each call agent established AAL2 connection on the gateway.
dspxgcpcon	Displays the attributes associated with a call agent established connection.
dspxgcpcons	Displays the xGCP connection ID, endpoint name and call ID corresponding to each call agent established connection on the gateway.
dspxgcpendpt	Displays the attributes associated with an endpoint.
dspxgcpendptcons	Displays the attributes of all connections associated with an endpoint.
dspxgcpendpts	Displays the xGCP endpoint names of all endpoints added with the **addendpt** command, or the SNMP equivalent.

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dspxgcppeers

To display all the User Datagram Protocol (UDP) peer ports used by the Simple Gateway Control Protocol (SGCP) or the Media Gateway Control Protocol (MGCP), use the **dspxgcppeers** command in the VoIP switching/trunking operating mode.

dspxgcppeers

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the UDP ports used by xGCP are displayed:

```
dspxgcppeers

mgcNumber      protocolNumber   portNumber
-----------    -------------    ----------
   1                1            2064
   1                2            2427
```

Related Commands

Command	Description
cnfxgcppeer	Configures the UDP port number used to send gateway-initiated messages to the call agent.

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dspxgcppersistevts

To display all active persistent xGCP events, use the **dspxgcppersistevts** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspxgcppersistevts

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the active persistent xGCP events are displayed:

```
dspxgcppersistevts

1               l/hd
2               l/hu
3               r/co4
```

Related Commands

Command	Description
addxgcppersistevt	Adds persistent xGCP events.
delxgcppersistevt	Deletes a persistent xGCP event.

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dspxgcpport

To display the local User Datagram Protocol (UDP) port number used by the Simple Gateway Control Protocol (SGCP) or the Media Gateway Control Protocol (MGCP), use the **dspxgcpport** command in the VoIP switching/trunking operating mode.

dspxgcpport

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the UDP port number used by SGCP/MGCP is displayed:

```
dspxgcpport

xgcpPortNumber: 2427
```

Related Commands

Command	Description
cnfxgcppeer	Configures the UDP port number used to send gateway-initiated messages to the call agent.

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dspxgcpretry

To display the current xGCP retransmission parameters—retry (retransmission) count, minimum timeout value, and maximum timeout value—use the **dspxgcpretry** command in the VoIP switching/trunking and switched AAL2 PVC operating modes.

dspxgcpretry

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking and switched AAL2 PVC

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the current xGCP retransmission parameters are displayed:

```
dspxgcpretry

Min Request Timeout :    500
Retry Count         :    3
Max Request Timeout :    500
```

Related Commands

Command	Description
cnfxgcpretry	Configures VISM minimum and maximum request timeouts and retransmission attempts for communication with the associated call agent.

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Help

To display, in an alphabetical list, all commands associated with the current VISM card, use the **Help** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

Help

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

This command is case sensitive—**Help**.

Note You cannot use this command to obtain details about a specific command.

Examples

The following example shows that all commands associated with the current VISM card are displayed in an alphabetical list.

Note The list displayed in this example is a partial list—your results return a greater number of associated commands.

```
Help

?
addcasvar
addccs
addcid
.
.
.
dspxgcppersistevts
dspxgcpport
dspxgcpretry
Help
pinglndsp
tstcon
tstdelay
version
```

Related Commands

Command	Description
?	Displays some or all commands associated with the current card.

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pinglndsp

To display the digital signal processor (DSP) configuration data and status for all endpoints on a specified line, use the **pinglndsp** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

pinglndsp *line-num*

Syntax Description

line-num	Line number for the DSPs you want to display configuration data and status. It can be a value in the range from 1 to 8.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the DSP configuration data and status for the VISM card line 1 is displayed:

```
pinglndsp 1
```

Related Commands

Command	Description
dsplndsp	Displays the DSP information for a specified VISM card line.

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tstcon

To test a specified connection, use the **tstcon** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

tstcon *lcn*

Syntax Description

lcn	Logical channel number of the connection to be tested. It can be a value in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the connection identified by logical channel number 136 is tested:

```
tstcon 136
```

Related Commands

Command	Description
tstdelay	Tests the delay on a specified connection.

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tstdelay

To test the delay on a specified connection, use the **tstdelay** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

tstdelay *lcn*

Syntax Description

lcn	Logical channel number of the connection for which to test the delay. It can be a value in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the delay for the connection identified by logical channel number 136 is tested:

```
tstdelay 136
```

Related Commands

Command	Description
tstcon	Tests a specified connection.

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upcon

To configure a specified connection up, allowing traffic to be passed to the specified connection, use the **upcon** command in the VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC operating modes.

upcon *lcn*

Syntax Description

lcn	The logical channel number. It can be in the range from 131 to 510.

Command Modes

VoIP switching/trunking, switched AAL1 SVC, switched AAL2 SVC, switched AAL2 PVC, AAL2 trunking, VoIP and switched ATM AAL1 SVC

Usage Guidelines

When a channel is brought up from down with the **upcon** command, a vismChanConUp trap is sent.

Examples

The following example shows that connection 189 is configured to be administratively up and traffic can be passed to it:

```
upcon 189
```

Related Commands

Command	Description
dncon	Configures a specified connection down, preventing traffic from being passed to it.
dspcon	Displays the parameters for a specified channel.

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version

To display version-related data—such as firmware version, operating system kernel version, date of the software build—for the current VISM card, use the **version** command in the VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking operating modes.

version

Syntax Description

This command has no arguments or keywords.

Command Modes

VoIP switching/trunking, switched AAL2 PVC, and AAL2 trunking

Usage Guidelines

Follow standard CLI procedures for this command.

Examples

The following example shows that the version-related data for the current VISM card is displayed:

```
version

***** Cisco Systems. MGX VISM Card *****
Firmware Version    = 003.000.000081-I
Backup Boot version = VI8_BT_3.1.01
Xilinx Firmware version = 10/ 2/1998
DSPCOM FPGA version     = 3/ 28/2001
DSPM C549 Template 1 FW Details:
  Major Release   = 3
  Minor Release   = 6
  Build number    = 14
DSPM C549 Template 2 FW Details:
  Major Release   = 3
  Minor Release   = 6
  Build number    = 15
DSPM C549 Template 3 FW Details:
  Major Release   = 3
  Minor Release   = 6
  Build number    = 14
DSPM C549 Template 4 FW Details:
  Major Release   = 3
  Minor Release   = 6
  Build number    = 14
DSPM C5421 Template 1, 2, and 3 FW Details:
  Major Release   = 3
  Minor Release   = 6
  Build number    = 14
DSPM C5421 Template 4 FW Details:
  Major Release   = 3
  Minor Release   = 6
  Build number    = 14
DSPM C549 E1 ECAN FW Details:
  Major Release   = 7
  Minor Release   = 6
  Build number    = 1505
DSPM C549 T1 ECAN FW Details:
  Major Release   = 7
```


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```
  Minor Release    = 6
  Build number     = 4
DSPM C5421 T1 & E1 ECAN FW Details:
  Major Release    = 8
  Minor Release    = 13
  Build number     = 0
 Made by = swtools
VxWorks (for R5k PDC) version 5.3.1.
Kernel: WIND version 2.5.
Made on Mar 29 2002, 04:36:43.
Boot line:
```

Note The display from this command is different than the one that is shown here if you are using CALEA.

Related Commands

There are no related commands.

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Troubleshooting Tips

Use the following troubleshooting tools and techniques to assist you in maintaining your VISM card:

- "VISM Card LEDs" section on page 6-1
- "VISM and PXM Display, Log, and Diagnostic Loopback Path CLI Commands" section on page 6-2
- "VISM Alarms" section on page 6-5
- "UNIX Snoop Trace Tool" section on page 6-5
- "Symptoms and Solutions" section on page 6-5

VISM Card LEDs

The VISM card uses the following three card status LEDs (see Figure 6-1) to indicate certain states:

- ACT—Green indicates the active state.
- STBY—Orange, or blinking orange, indicates one of the following:
  - VISM is in the standby state.
  - VISM is in the mismatch state.
  - VISM card DSPs are currently involved in the VISM card bootup.
- FAIL—Red indicates the failure state, or certain stages of the bootup process.

The VISM card uses eight line status LEDs (see Figure 6-1) to indicate the following states of the eight T1 or E1 ports on the VISM back card:

- Green—A line has been added and there is no alarm on that line.
- Orange—A line has been added and there is a yellow alarm condition on the line.
- Red—A line has been added and there is one of the following conditions on the line:
  - Loss of signal (LOS) (red alarm condition)
  - Loss of frame (LOF)
  - Alarm indication signal (AIS)

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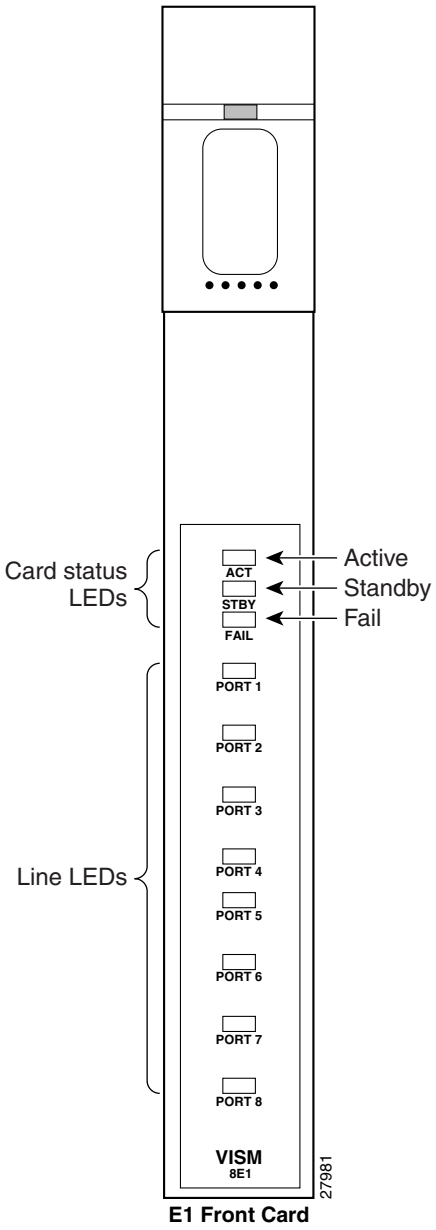
Figure 6-1 VISM Front Card LEDs



VISM and PXM Display, Log, and Diagnostic Loopback Path CLI Commands

You can use the following commands to troubleshoot your VISM card:

- The VISM **dspcd** command
- The PXM **dsplog** command
- PXM diagnostic loopback commands

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Note Refer to the Cisco MGX 8000 Series platform command reference guides for more information on PXM commands.

VISM Display Card CLI Command

Use the VISM **dspcd** command to display the following types of information about your current VISM card:

- State of the VISM card
- Type of VISM card
- Version number and part numbers
- Daughter card version numbers and part numbers

The following example shows the results of a typical **dspcd** command:

```
NODENAME.1.3.VISM8.a > dspcd
ModuleSlotNumber:          17
  FunctionModuleState:       Active
  FunctionModuleType:        VISM-8T1
  FunctionModuleSerialNum:   SAK0331006P
  FunctionModuleHWRev:       0.0
  FunctionModuleFWRev:       2.0.0_11Nov01_2
  FunctionModuleResetReason: ?
  LineModuleType:            LM-RJ48-8T1
  LineModuleState:           Present
  mibVersionNumber:          21
  configChangeTypeBitMap:    CardCnfChng, LineCnfChng
  pcb part no - (800 level): 800-04399-01
  pcb part no - (73 level):  73-03618-01
  Fab Part no - (28 level):  28-02791-01
  PCB Revision:              08

Daughter Card Information:
  Daughter Card Serial Number: SAK0331003P
  pcb part no - (73 level):    73-03722-01
  Fab Part no - (28 level):    28-02905-01
  PCB Revision:                04
```

PXM Display Log CLI Command

Use the PXM **dsplog** command to display useful information for troubleshooting your VISM card. The log is maintained by the PXM. A VISM entry is displayed in the log in the following format:

- Date and time of the log
- Slot number of the VISM card from which a message is logged
- The process on the VISM card that logged that message
- Severity of the message:
  - 1 = Fatal error which causes the card to reboot
  - 6 = All other errors
- A log message description

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The following example shows the results of a typical **dsplog** command:

```
09/09/2001-02:09:01 03 cam VISM-6-9157
VISM got time from PXM
```

PXM Diagnostic Loopback Path CLI Commands

The VISM-8T1 and VISM-8E1 cards provide the capability for creating loopback paths for diagnostic purposes. Use the VISM and PXM diagnostic loopback CLI commands to troubleshoot your VISM cards. The following loopback configurations are possible:

- Local line loopback. Use the PXM **addlnloop** command to enable local line loopback on a line-by-line basis. Use the PXM **dellnloop** command to disable local line loopback.
- Remote line loopback. The PXM **cnfbert** command is a T1/E1 diagnostic test package which includes some loopback tests.

  Use the BERT and loopback functions to test the integrity of T1 and E1 lines. You can use the PXM **cnfbert** command on the PXM to perform the following actions:

  - Run BERT on a per-line basis on the VISM card.
  - Put a VISM line on a TDM side loopback.
  - Put a VISM line on a network side loopback.
  - Cause the VISM to put test equipment residing on the far side into loopback.
- OAM loopback through the CPU toward the network (per VC). This loopback is enabled automatically; no PXM or VISM CLI commands are required.
- DS0 loopback, at the compression DSP toward the TDM side. Use the PXM **addendptloop** command to enable DS0 loopback on a DS0-by-DS0 basis. Use the PXM **delendptloop** command to disable DS0 loopbacks.
- VC remote loopback. Use the PXM **addconloop** command to enable VC remote loopbacks. Use the PXM **delconloop** command to disable remote loopbacks.

PXM1E and PXM 45 Display CLI Commands

Refer to the *Cisco MGX 8850 Installation and Configuration Guide* and the *Cisco MGX 8000 Series Switch Command Reference* for information on the following PXM1, PXM1E, and PXM45 card display commands.

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VISM Alarms

Table 6-1 describes VISM T1 and E1 card alarms.

Table 6-1 VISM T1 and E1 Card Alarms

Error	Alarm Type	Down stream (ATM side)	Up Stream (TDM side)	Comments
Link Failure—receive LOS[1]	LOS[1]	AIS[2]	RAI[3]	RAI[3] returned on the transmit line.
Receive RAI[3]	Yellow	RAI[3]	None	—
Receive LOF[4]	—	AIS[2]	RAI[3]	RAI[3] returned on the transmit line.
Receive AIS[2]	AIS[2]	AIS[2]	RAI[3]	RAI[3] returned on the transmit line.

1. LOS = Loss of service.
2. AIS = Alarm indication signal.
3. RAI = Remote alarm indicator.
4. LOF = Loss of frame.

Refer to T1.403 for DS1 and G.704 for E1 definitions of alarm states. Alarms are propagated to the remote end over the ATM network in accordance with ATM specifications.

UNIX Snoop Trace Tool

Use the UNIX snoop trace tool to assist in diagnosing a problem. The **snoop** command can determine if there is any activity between the VISM and the call agent. The following example shows the command and a typical resulting terminal display:

```
snoop -x 42 -ta <ip address of CA> port <udp port of CA>
E.g snoop -x 42 -ta vismvsc1 port 2427
```

Symptoms and Solutions

This section includes possible solutions to the following possible symptoms:

- “VISM Card Did Not Become Active” section on page 6-6
- “T1/E1 Configuration Mismatch” section on page 6-6
- “DSP Download Failure” section on page 6-7
- “VISM Front Card/Back Card Mismatch” section on page 6-8
- “Cannot Use the cc Command to Access a VISM Card” section on page 6-9
- “VISM Card Resets Intermittently” section on page 6-9
- “VISM Card Does Not Accept a Firmware Download” section on page 6-9
- “Echo Is Heard on a Voice Call” section on page 6-9
- “VISM Card LEDs Are Not Lighted” section on page 6-9

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VISM Card Did Not Become Active

Investigate the following possible causes for a VISM card that does not become active:

- An E1 card is inserted in a slot where a T1 card was present, or a T1 card is inserted in a slot where an E1 card was present, resulting in configuration mismatch.
- The minimum number (five) of DSPs failed to download.
- A front card type does not match the back card type—if the front card is T1 and the back card is E1, or the front card is E1 and the back card is T1.
- The VISM card MIB image version does not match the PXM disk MIB image version.

T1/E1 Configuration Mismatch

Use the PXM **dspcds** command to identify a T1/E1 configuration mismatch, as follows:

```
NODENAME.1.7.PXM.a > dspcds
Slot  CardState    CardType     CardAlarm  Redundancy
----  -----------  --------     ---------  -----------
1.1   Empty                     Clear
1.2   Empty                     Clear
1.3   Empty                     Clear
1.4   Empty                     Clear
1.5   Mismatch     VISM-8E1     Clear
1.6   Empty                     Clear
1.7   Active       PXM1-OC3     Clear
1.8   Empty                     Clear
1.9   Empty                     Clear
1.10  Empty                     Clear
1.11  Empty                     Clear
1.12  Empty                     Clear
1.13  Empty                     Clear
1.14  Empty                     Clear
1.15  Empty                     Clear
1.16  Empty                     Clear
1.17  Empty                     Clear
1.18  Empty                     Clear
1.19  Empty                     Clear
```

Use the PXM **dspsmcnf** command to identify a T1/E1 configuration mismatch, as follows:

```
NODENAME.1.7.PXM.a > dspsmcnf
slot      Card        Rate     Channel                          MIB     Feature
No.      Type       Control    ized       IMA     MULTRKS   Version    Bits
------   ----------   -------   -------   -------   -------   -------   -------
1     ------>  No configuration file exist for this slot  <------
2     ------>  No configuration file exist for this slot  <------
3     VISM-8T1       Off       Off       Off       Off        20      0x0
4     ------>  No configuration file exist for this slot  <------
5     VISM-8T1       Off       Off       Off       Off        20      0x0
6     ------>  No configuration file exist for this slot  <------
9     ------>  No configuration file exist for this slot  <------
10     ------>  No configuration file exist for this slot  <------
11     ------>  No configuration file exist for this slot  <------
12     ------>  No configuration file exist for this slot  <------
13     ------>  No configuration file exist for this slot  <------
14     ------>  No configuration file exist for this slot  <------
17     ------>  No configuration file exist for this slot  <------
18     ------>  No configuration file exist for this slot  <------
19     ------>  No configuration file exist for this slot  <------
```


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```
20     ------>  No configuration file exist for this slot  <------
21     ------>  No configuration file exist for this slot  <------
22     ------>  No configuration file exist for this slot  <------
25     ------>  No configuration file exist for this slot  <------
26     ------>  No configuration file exist for this slot  <------
27     ------>  No configuration file exist for this slot  <------
28     ------>  No configuration file exist for this slot  <------
29     ------>  No configuration file exist for this slot  <------
30     ------>  No configuration file exist for this slot  <------
```

Use the PXM **dsplog** command to show a card mismatch log entry, logged by VISM card on slot 5, as follows:

```
09/09/2001-00:01:47 05 dsplog VISM-6-9025
VISM going to standby : Config. Mismatch between PXM and VISM
```

Use the VISM **dspcd** command to display the following information:

```
NODENAME.1.5.VISM8.s > dspcd
ModuleSlotNumber:          5
FunctionModuleState:       Mismatch
FunctionModuleType:        VISM-8E1
FunctionModuleSerialNum:   CAB12345678
FunctionModuleHWRev:       0.13
FunctionModuleFWRev:       2.2.10g.pm
FunctionModuleResetReason: WatchDog timeout reset
LineModuleType:            Missing
LineModuleState:           Not Present
mibVersionNumber:          20
configChangeTypeBitMap:    CardCnfChng, LineCnfChng
cardIntegratedAlarm:       Clear
pcb part no - (800 level): 800-03530-01
pcb part no - (73 level):  73-03021-01
Fab Part no - (28 level):  28-02492-01
PCB Revision:              01
Daughter Card Information:
Daughter Card Serial Number: CAB12345678
pcb part no - (73 level):    73-03022-01
Fab Part no - (28 level):    28-02493-01
PCB Revision:                01 value = 34 = 0x22 = '"'
```

DSP Download Failure

Use the PXM **dsplog** command to determine if the minimum number (five) of the DSPs failed to download. The terminal displays results similar to the following:

```
NODENAME.1.7.PXM.a > dsplog
01/01/2001-00:02:10 05 tDspmDl    VISM-6-9193
DSPM task errors     : 6 DSPs failed to download
```

If the number of DSPs (six in the above case) is greater than five, the card will fail to be in the active state. If this condition happens repeatedly, replace the card.

Use the following PXM **dspcds** command, and the results, to determine the current state of VISM DSPs:

```
NODENAME.1.7.PXM.a > dspcds
Slot  CardState    CardType     CardAlarm  Redundancy
----  ----------  --------     ---------  ----------
1.1   Empty                    Clear
1.2   Empty                    Clear
1.3   Empty                    Clear
```


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```
1.4   Empty                    Clear
1.5   Failed       VISM-8E1    Clear
1.6   Empty                    Clear
1.7   Active       PXM1-OC3    Clear
1.8   Empty                    Clear
1.9   Empty                    Clear
1.10  Empty                    Clear
1.11  Empty                    Clear
1.12  Empty                    Clear
1.13  Empty                    Clear
1.14  Empty                    Clear
1.15  Empty                    Clear
1.16  Empty                    Clear
1.17  Empty                    Clear
1.18  Empty                    Clear
1.19  Empty                    Clear
```

VISM Front Card/Back Card Mismatch

Use the following PXM **dsplog** command to investigate a possible VISM front card/back card mismatch:

```
NODENAME.1.7.PXM.a > dsplog
01/01/2001-00:02:24 05 cmm        VISM-6-9025
VISM going to standby : Config. Mismatch between ASC and VISMV
01/01/2001-00:02:24 05 cmm        VISM-6-9023
Mismatch Backcard
01/01/2001-00:02:24 05 cmm        VISM-6-9023
Mismatch Backcard
```

In a mismatch condition, use the PXM **dspcds** command to display the following type of information:

```
NODENAME.1.7.PXM.a > dspcds
Slot  CardState    CardType     CardAlarm  Redundancy
----  -----------  --------     ---------  -----------
1.1   Empty                    Clear
1.2   Empty                    Clear
1.3   Empty                    Clear
1.4   Empty                    Clear
1.5   Mismatch     VISM-8E1    Clear
1.6   Empty                    Clear
1.7   Active       PXM1-OC3    Clear
1.8   Empty                    Clear
1.9   Empty                    Clear
1.10  Empty                    Clear
1.11  Empty                    Clear
1.12  Empty                    Clear
1.13  Empty                    Clear
1.14  Empty                    Clear
1.15  Empty                    Clear
1.16  Empty                    Clear
1.17  Empty                    Clear
1.18  Empty                    Clear
1.19  Empty                    Clear
```

Use the VISM **dspcd** command to display the following types of information:

```
NODENAME.1.5.VISM8.s > dspcd
ModuleSlotNumber:          5
FunctionModuleState:       Mismatch
FunctionModuleType:        VISM-8E1
FunctionModuleSerialNum:   CAB0246014P
FunctionModuleHWRev:       0.0
```


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```
FunctionModuleFWRev:       2.2.10g.pm
FunctionModuleResetReason: Reset by ASC from Cell Bus
LineModuleType:            LM-RJ48-8T1
LineModuleState:           Invalid
mibVersionNumber:          20
configChangeTypeBitMap:    CardCnfChng, LineCnfChng
cardIntegratedAlarm:       Clear
pcb part no - (800 level): 800-04399-01
pcb part no - (73 level):  73-03618-01
Fab Part no - (28 level):  28-02791-01
PCB Revision:              05
Daughter Card Information:
Daughter Card Serial Number: CAB024601FF
pcb part no - (73 level):    73-03722-01
Fab Part no - (28 level):    28-02905-01
PCB Revision:                02 value = 34 = 0x22 = '"'
```

Cannot Use the cc Command to Access a VISM Card

Use the PXM **dspcds** command to verify if the VISM card is in the active or standby state. If the VISM card is not in the active or standby state, you cannot use the **cc** command to access the card.

VISM Card Resets Intermittently

Investigate the following possibilities to determine why the VISM card is resetting intermittently:

- Bad hardware device on the card. Replace any corrupt hardware.
- Daughter card is not attached correctly to the VISM card. As a result, the VISM card is not able to maintain its abilities. Ensure that the daughter card is making electrical contact to the motherboard, and is mechanically secure.

VISM Card Does Not Accept a Firmware Download

There must be a VISM card in the slot to which firmware is being downloaded. Ensure that the VISM card is seated in the slot, and that it is making electrical contacts to the backplane.

The card must be in either the active or boot state. Confirm this is the case and try again.

Echo Is Heard on a Voice Call

Ensure that the call has the ECAN feature enabled. If the echo delay is longer than the provision tail length, ECAN does not work. Use the VISM **cnfecantail** command to configure a larger value for the tail length.

VISM Card LEDs Are Not Lighted

The VISM card may not be inserted completely in the slot. Ensure that the VISM card is seated in the slot correctly, with top and bottom half portions of the VISM card making electrical contact with the backplane.

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Firmware Does Not See the Card Insert Bit Status As Set

This symptom can also indicate a bad VISM card or bad MGX slot.

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VISM and VISM-PR Card Clocking Options

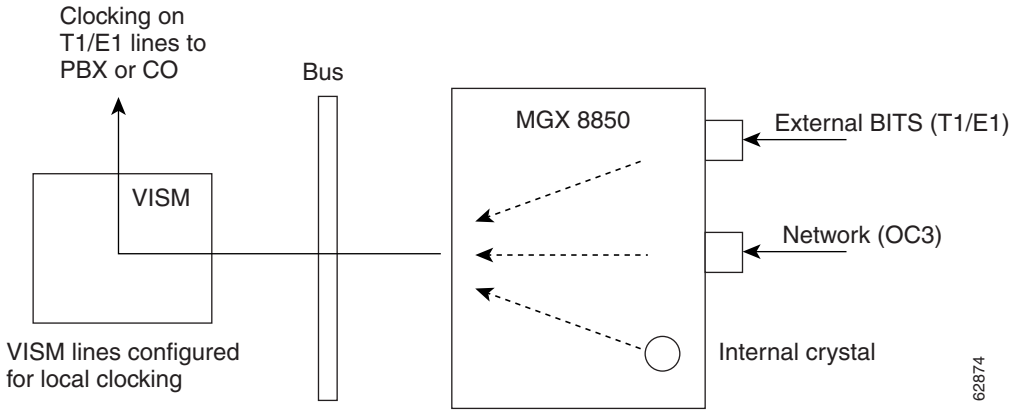
An MGX 8000 Series platform, consisting of PXM and VISM cards, should have one primary clocking source. To avoid conflicts and to ensure proper operation, it is important that the settings for clocking options in both card types are considered together. You must use one of the following primary clocking source options, which are supported by the VISM/PXM interface:

- PXM1, PXM1E, and PXM45 cards—Provides clocking for all VISM cards in the chassis.
- A VISM card—Provides clocking for the PXM1, which then provides clocking to the entire chassis.
- A VISM-PR card—Provides clocking for the PXM1E or PXM45 card, which then provides clocking to the entire chassis.

PXM1 Card as Primary Clocking Source

Figure A-1 shows the PXM card primary clocking source option in which the clock source originates at the PXM side of the VISM/PXM interface.

Figure A-1 VISM Configured for Local Clocking



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The PXM card option allows you to configure the clocking source origination from one of the following sources:

- An external BITS clock on the PXM card's T1 or E1 back card port.
- An external OC3 signal on a PXM SONET back card port.
- The PXM card's internal crystal (default).

The internal crystal is the default and is set as the primary clock source automatically when power is applied to the chassis.

To use one of the other two clocking sources, complete the following steps:

Step 1 Use the **cnfclksrc** command to configure the clocking source—external BITS clock or external OC3 signal.

Step 2 Use the **cnfln** command to configure all VISM lines for local clocking.

The PXM card option makes the PXM the clock source for the all cards in the chassis. The VISM cards then use this clocking to provide clocking for their associated T1 or E1 lines. Refer to Chapter 5, "CLI Commands," for more information on VISM commands.

Refer to the *Cisco MGX 8850 Installation and Configuration Guide* and the *Cisco MGX 8000 Series Switch Command Reference* for information on the following PXM card clocking commands:

- **cnfcbclk**
- **cnfextclk**
- **cnfsrmclksrc**
- **dspcbclk**
- **dspclkinfo**
- **dspclksrc**
- **dspcurclk**

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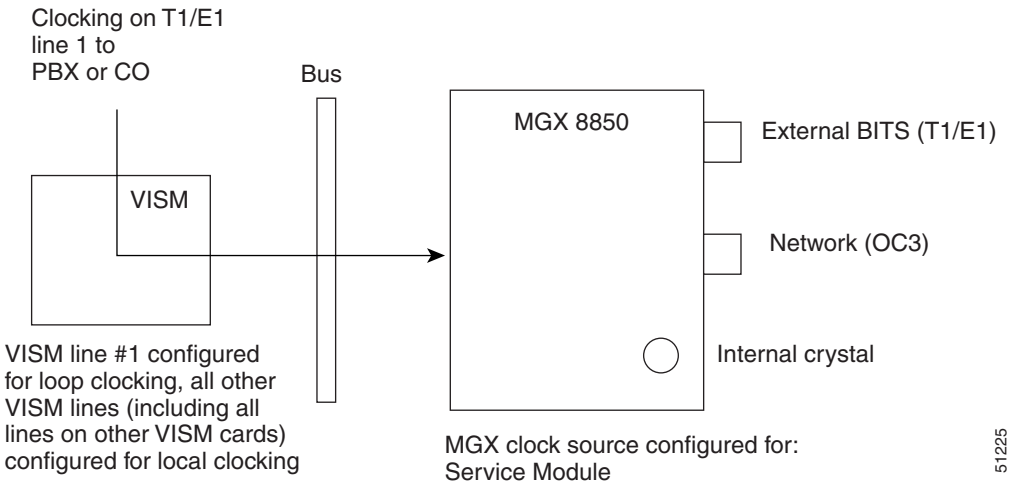
VISM Card as Primary Clocking Source

Figure A-2 shows the VISM card primary clocking source option in which the clock source originates at the VISM side of the VISM/PXM interface.

Figure A-2 VISM Configured for Loop Clocking



The VISM card option originates clocking from one of the T1 or E1 lines on one of the VISM cards.

To configure the VISM card as the primary clocking source, complete the following steps:

Step 1 Use the **cnfln** command to configure line number 1—the line that is receiving the clocking source—for loop clocking.

Step 2 Use the **cnfln** command to configure all remaining T1 or E1 lines on all VISM cards in the chassis for local clocking.

Step 3 Use the **cnfclksrc** command to configure the PXM card as a service module clocking source and specify VISM and its clocking line (line number 1) as the clocking source.

Note The VISM card allows you to configure the clock source on line 1 only. The VISM-PR card does not have this requirement.

VISM-PR Card as Primary Clocking Source

The VISM-PR card allows you to configure primary clocking from the following sources:

- Network clock—the local clock for the PXM1, PXM1E, or PXM45 module
- Any VISM-PR T1 or E1 line
- On-board oscillator

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To configure the VISM-PR card as the primary clocking source, complete the following steps:

Step 1 Use the **cnfln** command to configure a line number—the line that is receiving the clocking source—for loop clocking.

Step 2 Use the **cnfln** command to configure all remaining T1 or E1 lines on all VISM cards in the chassis for local clocking.

Step 3 Use the **cnfclksrc** command to configure the PXM card as a service module clocking source and specify VISM and its clocking line as the clocking source.

You cannot delete a line that is configured as the clock source. You must first configure the line to not be the clock source and then you can delete the line.

Refer to Chapter 5, "CLI Commands," for more information on VISM commands.

PXM1E or PXM45 Card as Primary Clocking Source

Use the **cnfncdpclksrc** command to configure the PXM1E or PXM45 card as the primary clock source. Refer to the *Cisco MGX 8850 Installation and Configuration Guide* and the *Cisco MGX 8000 Series Switch Command Reference* for configuration instructions. Use the following commands to display and verify your configuration:

- **dspncdpclkinfo**
- **dspncdpclksrc**

Revertive and Nonrevertive Clocking

Clocking can be either revertive or nonrevertive. If your MGX switch is configured for a clock source from a BITS source or PXM line source and the source line goes into the alarm state, a revertive or nonrevertive recovery occurs.

- Revertive clocking—If a node is configured and the clock source fails (due to a physical failure such as a loss of signal, the clock frequency drifts out of specification, or a bad frequency), the node abandons the clock source and finds an alternate clock source. When the original clock source repairs, the node automatically reverts to using the original clock source.
- Nonrevertive clocking—Similar to revertive clocking, except that when the original clock source repairs, the node does not automatically revert to the original clock source.

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Revertive and nonrevertive clocking depends upon the processor module back card used and the clocking source specified. See Table A-1 to determine if your clocking is revertive or nonrevertive in your network configuration.

Table A-1 Revertive/Nonrevertive Clocking and PXM Back Card Support

Processor Module Back Card	Using External Clock	Using Inband/Service Module Clock
PXM-UI	For loss of service: revertive For bad frequency/drift: nonrevertive	For loss of service: revertive For bad frequency/drift: nonrevertive
PXM-UI-S3	For loss of service: revertive For bad frequency/drift: nonrevertive	For loss of service: revertive For bad frequency/drift: nonrevertive

To make a nonrevertive clock source usable after it has failed, you must use the **cnfclksrc** command to change that particular clock source, and then use the **cnfclksrc** command again to configure it back. Refer to Chapter 5, "CLI Commands," for more information on CLI commands.

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VISM and VISM-PR—3.0 Specifications

VISM Card Specifications

- ATM layer: Per ITU standards I.361 and ATM UNI v3.1
- AAL layer: AAL5 as per standard I.363.

VISM Card Physical Interface Specifications and Applicable Standards

Physical Layer Interface T1:

- Line Rate: 1.544 Mbps +/– 50 bps.
- Line Interface Connector: Balanced 100-ohm RJ-48C.
- Synchronization: The transmit clock can be selected from either the looped clock or the node's clock.
- Line Code: Bipolar 8 zero substitution (B8ZS) per ANSI T1.408 and AMI.
- Line Framing: Extended Superframe Format (ESF 24-frame multiframe) per ANSI T1.408.
- Input Jitter Tolerance: Per ATT TR 62411.
- Output Jitter Generation: Per ATT TR 62411 using normal mode synchronization.
- Physical Layer Alarms: LOS, LOF, AIS, RAI.

Physical Layer Interface E1:

- Line Rate: 2.048 Mbps +/- 50 bps.
- Line Interface Connector: Balanced 120-ohm RJ-48C, Unbalanced 75-ohm SMB.
- Synchronization: The transmit clock can be selected from either the looped clock or the node's clock.
- Line Code: HDB3 (E1) and AMI.
- Line Framing: 16-frame multiframe per G.704.
- Input Jitter Tolerance: As specified in ITU G.823 for 2.048 Mbps.
- Output Jitter Generation: As specified in ITU G.823 for 2.048 Mbps.
- Physical Layer Alarms: LOS, LOF, AIS, RAI.

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General VISM Card Standards

Card Status Indicator LEDs:

- Active (Green)
- Standby (Orange)
- Fail (Red)

Line status indicator LEDs:

- Active and Okay (Green)
- Active and Local Alarm (Red)
- Active and Remote Alarm (Orange)

Maintenance/Serviceability Features: Internal loopbacks, hot-pluggable.

VISM Front Card:

- AX-VISM-8T1/8E1—7.25 x 16.25 inches

VISM Line Modules:

- AX-RJ48-8T1-LM—7.0 X 4.5 inches
- AX-R-RJ48-8T1-LM—7.0 X 4.5 inches
- AX-RJ48-8E1-LM—7.0 X 4.5 inches
- AX-R-RJ48-8E1-LM—7.0 X 4.5 inches
- AX-SMB-8E1-LM—7.0 X 4.5 inches
- AX-R-SMB-8E1-LM—7.0 X 4.5 inches

Total VISM Power:

- 48 VDC (100W estimated)
- 5 VDC (25W estimated)
- 3.3 VDC (43W estimated)
- 2.5 VDC (12W estimated)

VISM Card Counters Specifications

T1/E1 Framers:

- OOF Count
- LCV Count
- FER Count
- CRC Error Count

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RTP/RTCP:

- Number of packets received
- Number of packets transmitted
- Number of error packets received

ATM Cells:

- Number of cells transmitted to cellbus
- Number of cells discarded due to intershelf alarm
- Number of cells transmitted with CLP bit set
- Number of AIS cells transmitted
- Number of FERF cells transmitted
- Number of end-to-end loop-back cells transmitted
- Number of segment loop-back cells transmitted
- Number of cells received from cellbus
- Number of cells received with CLP bit set
- Number of AIS cells received
- Number of FERF cells received
- Number of end-to-end loop-back cells received
- Number of segment loop-back cells received
- Number of OAM cells discarded due to CRC-10 error

Diagnostics:

- Header of last cell with unknown LCN

VISM-PR Card Specifications

This section describes the card specifications that are unique to the VISM-PR card.

VISM-PR Card Features

The following features are contained in the VISM-PR card:

- Voice processing for all channels, using the following:
  - Echo cancellation (ECAN)
  - Digital Signal, level 0 (DS0) channels
  - G.711u
  - G.711a
  - G.726-32k
  - G.729a
  - G.729ab
  - Clear channel

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  - G.726-16k
  - G.726-24k
  - G.726-40k
  - G.723-H
  - G.723a-H
  - G.723.1-L
  - G.723.1a-L
  - Tone detection and generation
- High functionality negotiated on demand for channels using the following:
  - Adaptive Differential Pulse Code Modulation (ADPCM)
  - Code Excited Linear Prediction (CELP)
- Multiple packetization format in the following modes:
  - Voice over IP (VoIP) switching/trunking
  - VoIP with Real time Transport Protocol (RTP) in AAL5
  - Switched AAL1 switched virtual circuits (SVC)
  - Switched AAL2 SVC
  - Switched AAL2 PVC—this operating mode is not supported in VISM Release 3.0
  - AAL2 trunking
  - VoIP and Switched ATM AAL1 SVC
- High-density aggregation, providing the following:
  - 8 T1/E1s of PCM voice
  - 192 T1 or 248 E1 DS0s per VISM-PR card
  - 4608 T1 or 5952 E1 DS0s per chassis shelf
  - 13824 T1 or 17856 E1 DS0s per rack (3 MGX 8000 series switch chassis per rack)

See Chapter 1, “Overview of the VISM and VISM-PR Cards” for information about installing and using VISM and VISM-PR cards in your MGX 8000 series switch chassis.

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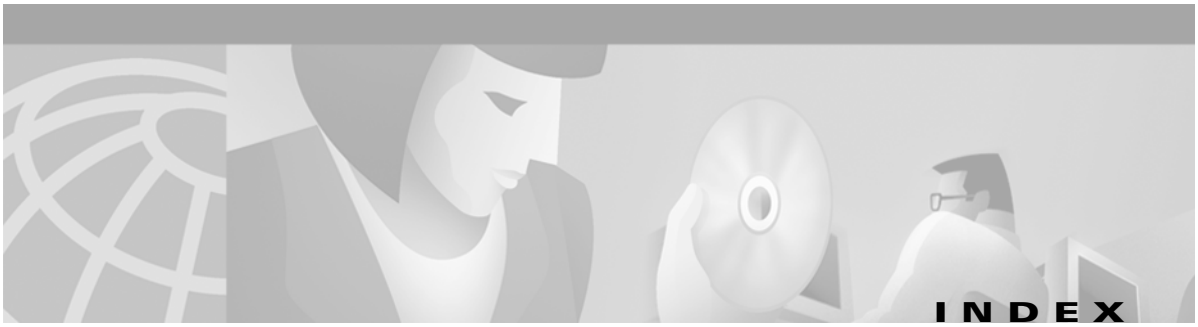

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